

THE
MEDICAL RECORDER.

VOL. VII.]

APRIL, 1824.

[N^o II.

ART. I. *An Abstract and Analysis of those causes, which favour and impede the Progress of Medicine.* By the EDITOR.

THE early periods of Europe were obscured by ignorance, and harassed with the endless hosts of evils, which arise out of the unreclaimed state of the physical and the moral world. The governments of that distinguished assemblage of communities, struggled long amidst these disorders, and at length escaped beneath a brighter horizon. Shedding their influence upon the peaceful occupations of agriculture, manufactures, and commerce, they mitigated the horrors of war, and evolved from the resources of the globe, the physical sciences, those vast engines, which threaten, before many years have rolled away, to place within the grasp of power the most distant nations of the earth.

The extraordinary improvement of these sciences, forms the leading characteristic of the present age: whilst astronomy, natural philosophy, and chemistry, advance rapidly to perfection, from the exact and rigorous methods by which they are prosecuted, medicine, though more directly subserving the great interests of our species, still wanders in a labyrinth of uncertainty. To review the causes of this defect is the object of this essay.

Science is the history of physical causes, treasured either in the memory, or recorded in books. The nature of cause

and effect will therefore first be presented; hypothesis and theory will next claim attention, and finally those causes which favour or impede the improvement of the science of medicine.

Our knowledge of external nature is received from bodies either at rest or in motion.* When, for instance, we look upon a mass of snow, the mind receives an impression, the result of the combination of particles of which this substance consists: these may be regarded in various lights, either as a simple aggregate of particles, or as a combination of substances, each of which consists of oxygen and hydrogen in certain proportions: these again, of caloric and ponderable bases, forming two gases. In this view, the substance is considered as wholly at rest, and the parts of which it is composed are regarded merely as they are placed in *juxta-position*. The anatomy of the human body affords another instance. The parts of which it is composed, its bones, its muscles, nerves, and viscera, are regarded simply as they are situated relatively to each other, and upon the accuracy of the knowledge thus obtained, does the perfection of that science consist: this mode of considering natural objects, applies to all the causes of nature, when viewed previous to their effects. The contemplation of individual objects of chemistry; the location of various strata, soils, and minerals, as they are considered by geology, when a whole country is the object of view; also, the relative position of countries in geography, where larger sections of the earth are considered, are instances of the first operation of mind in contemplating natural objects in the investigation of cause and effect; that is, when it considers their existence simply in space and at rest.

When therefore we contemplate a mass of snow, we consider it as a whole, as one, though it be composed of an aggregate of innumerable parts. In the same manner, the human body is called one, an individual, though its compo-

* See Brown's Lectures on the Human Mind.

nent parts are numerous, and have each very different qualities. This is a mere conception of the mind, for the particles of snow are not the less separate, composed of hydrogen and oxygen, each in its proportionate mass, nor the organs of the human body less distinct and various in those qualities, though the mind can regard both the snow and the man as distinct and separate individuals: this constitutes one of those dispositions of thought, which invests surrounding bodies with its conceptions, and leads to a knowledge of bodies more or less confused, when contemplated, as they exist at rest, or simply in space, according as the view is more or less analytical; thus, for instance, the chemist examining the properties of snow, may simply consider its particles as they are soluble, at a temperature above 32° of Fahrenheit, soft, transparent, &c. If his analysis be more minute, he separates each particle into two aeriform bodies, these again into their ponderable bases, and caloric, till the resources of his art are exhausted; his knowledge becoming more complete as his analysis is complete.

It is the object of science thus continually to oppose and counteract this disposition of the mind, to mass into groups the various subjects of nature, and thus to discover her remotest combinations; chemistry, in the analysis of bodies, anatomy, in the separation of the different parts of the human body by the knife, consists in this simple process; the same mode of resolution applies to the phenomena of disease. - When an inflamed part is contemplated by the mind, it is found to present the following combination; increased arterial action; a temperature above 98°; tumefaction and pain. The cure of this disease consists in the separation or removal of each of these symptoms: by diminishing the quantity of blood in the general system, the increased action disappears; and cold lessens the temperature: the same remedies also remove the swelling, &c. Disease may then be considered as a subject of analysis like other subjects of observation. Considered in this light, the mind may be regarded as the granary, and the senses as the labourers,

which separate and collect our knowledge into that repository. It is evident that the wider range they embrace, the more acute and analysing their powers, the greater will be our success in discovering new qualities, and laying them up for future usefulness. The telescope, by enlarging the sphere of vision, has discovered new phenomena in the heavens ; the tests of chemistry are assistant agents in rendering sensible, qualities, which would otherwise have passed unobserved. It is principally upon the extension of the capacity of the senses, that we must expect to enlarge our knowledge ; and it is not improbable, that many bodies, which now appear simple, would, with this additional power, be proved to be compound ; the planets, which seem now so many specks of light, might then be demonstrated to contain inhabitants like this earth ; and the present chemical elements to be composed of separate and distinct bodies. Inflammation, which is now believed to be nothing more than increased heat, swelling and pain, may hereafter be proved to proceed from a subtle cause, which, on the application of some undiscovered remedy, may more expeditiously be removed. When, however, we look around us, and discover all nature in motion, the subject of continual change, we are led to examine other relations of bodies ; relations which constitute the most essential parts of all knowledge —those of cause and effect.

In contemplating this subject, we are struck by the inviolable and indissoluble union, which holds between certain phenomena. If a spark of fire falls upon a mass of snow, it is immediately extinguished ; if it fall upon gunpowder, an explosion takes place, and these two effects are so indissolubly linked together, that as long as the present system of the world continues, the immediate extinction of the spark will be the consequence of its contact with the snow, and an explosion the result of its meeting with gunpowder : emetics, in the same manner, when taken into the stomach, produce a rejection of its contents, and if they are sufficiently powerful will require a cause, such as opium, to be

applied in quantities sufficient to destroy life, in the ordinary health of the individual, to counteract their dangerous influence ; and in both, the effect is consistent, and indissolubly connected with the cause.

When we contemplate the spark and the snow, the spark and the gunpowder—the emetic and the stomach, we can discover no intermediate agent from which this connection could be inferred. The Brunonian may affirm that the emetic acts upon the excitability of the organ, but in saying so, he introduces a quality which exists only in his imagination, which is embodied in the word excitability, and until we know that there is a substance in the stomach which deserves this name, it should not be admitted. The meeting of the spark and gunpowder, of the same body and snow, present simple and indissoluble unions of fact with fact, whose connecting link cannot be ascertained ; their existence is all we know. The first, from its constant precedence, is called a cause ; and is supposed, from its regular antecedence, to have a power by which the one is connected with the other ; and from the constitution of our nature, we are irresistibly led to expect the effect when the cause operates under favourable circumstances ; a wise provision of nature, upon which all the operations of our species, in its connection with the external world, are grounded. The physician in discharging opium from the stomach, either by a syringe and tube, or by an emetic, commences his operation with certainty, because the qualities of the fluid injected, and of the syringe as a mechanical agent to remove the substance, have been, and as long as the world continues always will be, the same ; he therefore operates with confidence, and success attends his efforts. This power, however, is an inference of the mind, which is drawn from observation, and is the result of repeated and frequent experience ; for without this frequent repetition, phenomena, which are merely coincident as to time, may be supposed by the mind to possess it. It is therefore difficult, particularly in the examination of the operations of agents upon the human system, frequently to ascertain with precision

the exact cause of an effect. Thus, if a medicine be prescribed for a disease, from which the patient recovers immediately after the prescription, the coincidence attributes the power to the medicine. It requires, however, frequent observation to determine this matter exactly.

The triangular bone, a part of the human skull, was once given with confidence in the cure of epilepsy, and great efficacy was attributed to it. It was, however, after the trial of a long series of years, proved to be without power, and its virtues were found to be owing not to the phosphate of lime, of which it is principally composed, but to the influence communicated to the imagination by the horrible nature of the remedy. It is upon this coincidence that hydrophobia has been supposed to be frequently cured by the remedies of empirical practitioners ; for it is now satisfactorily proved to be a disease, which does not by any means uniformly follow the bite of the rabid animal ; of course any medicine may, in many cases, gain credit for the cure. It is this train of circumstances, which has rendered medicine so uncertain. Every disease has a natural course of rise, progress, and decline, and the powers of the system frequently conduct the patient to health, without the interference of medicine. The remedy and nature, then, are two conflicting powers, each of which may both conspire to the same end ; the extinction or relief of the patient, leaving the decision of the case a matter of great uncertainty, more particularly from the practice so prevalent in civilized communities, where observation is most accurate, and most to be trusted, of employing the aid of medicine in every case. Of this fact, perhaps, the instance of the use of mercury in syphilis is a most decided illustration. Though this medicine has been now employed for more than three centuries, it is still doubted whether its effect is beneficial or the contrary ; and we have pretty good reason to believe, that the ulcerated throat, the inflammation of the soft and bony parts adjacent to the parotid, often result from this remedy. When, then, there are many causes, which will produce the same effect, as is true of the diseases

of the human body, it becomes necessary that the instances should be multiplied, in order that by their number we should be able to discover what two phenomena are really connected in the relation of cause and effect. Thus a celebrated general, during the prevalence of a dysentery among his men, found the number of his physicians too limited to attend the sick ; he accordingly ordered, by their advice, a certain quantity of Glauber salts to be administered to each soldier, at regular intervals, and with the happiest effect ; the army was soon freed from disease. Here the frequent deaths, and the sudden relief afforded by the medicine to thousands, removed all doubt with regard to its efficacy. In an intermittent, which prevailed during one of the campaigns of Austria in Hungary, it was observed that the retinue of a certain Count was extremely free from disease, though it was so general in the army, that they were obliged to remove from the country. The bark was regularly administered to his followers, and with the most decided success, as a preventive. Here the number of trials, and the continuance of the disease among thousands, who did not take the medicine, proved its efficacy beyond doubt. In the same campaign, the scurvy prevailed ; mercury was exhibited, and death was the uniform consequence ; and as the disease raged extensively, it settled the noxious influence of the remedy beyond controversy.

So numerous and diversified then are the causes, which operate on the human body, so various its different states, produced by concealed agents, acting within its limits, acting too, in various combination, and with different degrees of power at the same time, that the proofs of medical facts must always be precarious, and can only be settled by the cautious observation of men of the most elevated purity and zeal, united with powers of mind of the highest order.

The same causes, under the same circumstances, will have different effects ; thus, a current of cold air blowing on the upper parts of the body, produces in the same system, croup, or palsy of the muscles of the face : the same cause,

under different circumstances, will produce the same effect ; thus, miasmata develop in every variety of constitution, the intermittent fever ; which, when epidemic, assumes the character of almost all diseases. Different causes, under different circumstances, produce the same effect ; apoplexy is the result of the heat of the sun, of high living, &c. proving that the subject requires not only the most patient and unwearyed attention and research, but the most cautious and scrutinizing inquiry. The qualities of the air, of food, exposure, &c. all operate to give a distracted character to the face of medical opinion, and to perplex with uncertainty its decisions.

It therefore becomes necessary to view the phenomena of disease with a single and unprejudiced eye ; to trace, as far as can be done, every cause to its source, and to relieve the subject from the embarrassing theories and hypotheses, with which it is loaded from the speculative dispositions, too often embarked on its inconstant and irregular surface. To accomplish this object, it must be recollected that, from the limited nature of our powers, the phenomena are all we know ; that it is the connection of two facts, in indissoluble and invariable succession, which constitutes the essence of causation, and that it is the proper contemplation of this connection, which forms the real and solid acquisitions of science, for the whole operations of nature are nothing more than an uninterrupted series of phenomena in this relation. In tracing the union of a cause with its effect, the mind, from the constant observance of succession, invests the cause with a quality, called power, the result of an instinct which nature has implanted in us, and it is to the proper estimate of this agent, that men derive character in the pursuit of science for accuracy of thought, or the contrary ; and it is also to the proper appreciation of the relative strength of the phenomena of nature, and the development of our resources, according to that appreciation, that history stamps with the epithets of folly or of wisdom, of weakness or of strength, the various nations and ages of the

world: Thus the early periods of Europe were distinguished by superstition; in curing disease, the relics of the saints or attendance at their tombs engrossed much attention, opened a wide avenue to imposture, and filled the whole period with imbecility and folly: those who feigned sickness had an excuse for idleness; if their disease was real, the lazy monk obtained his reward, either in the extension of his dominion over the minds of the ignorant, and his future success in imposing on their deluded understandings; whilst the afflicted were devoted to death by the horrible effrontery of the reigning superstition, they prepared new rewards and perpetuation to its evils, in the prayers for their rescue from purgatory, and thus extended the rule of imposture beyond the limits of this world. The tomb of the saint, the death of the patient, the accumulation of wealth by deception, are the three links of this chain of causes; the first, the effect of the relics of the saints, was unreal; to perpetuate it, further imposture became necessary; the robbery of the friends followed the death of the sufferer, and closed in its cloudy veil, this horrible scene of effrontery.

In the proceedings of the alchemist, the same thing is true; the project of gaining, by an easy method, gold from the cheaper metals, by various arts, led to the same imposture, to the same waste of time, of labour, and of money. From the observation of the human body, it now clearly appears that supernatural influence, exercised by uninspired men, are of no avail in the cure of diseases, and that our only dependence is to be placed upon the operation of remedies judiciously administered; and the only means by which that knowledge is to be gained is by observation. The same is true of the projects of alchemy; the investigation of the operation of causes by chemistry, abridges labour by analysing the processes of the arts, and by separating those agents, which contribute nothing to the desired end from those which mainly produce it.

The effect of the method of observation, is beautifully illustrated in the treatment of inflammatory diseases, by depleting measures. However hidden may be the seat of the inflammation—in the eye, the head, the lungs, if its symptoms be present, this plan of treatment effectually removes it, and prevents, when judiciously administered, the formation of abscesses, which almost always end in the destruction of the organ, and if the organ be necessary to life, in the death of the individual.

The removal of the inflammation, is as indissolubly connected with venesection as its cause, as the extinction of the spark when it falls upon snow, or with an explosion when it falls upon gunpowder are with these substances respectively, and its operation is with equal difficulty explained.

The mind in contemplating the abstraction of blood from the vessels, sees nothing more than the simple phenomenon and its effect, the debility and the removal of the disease, its consequent. Why the abstraction of the blood, should produce a diminished action of the heart, is equally inexplicable with the power of snow to extinguish the spark, or of gunpowder to produce an explosion, on the contact of that body. Reasoning from analogy, we should expect that the diminution of the quantity of blood in the vascular system, would lessen the mass to be propelled, and enable the heart to act with more vigour ; but the contrary is the case, debility takes place long before a sufficient quantity is abstracted to lessen the mass of the blood, so as to aid its propulsion by diminishing its volume and weight. The phenomenon is purely vital ; we see that it is followed by its effect, the removal of the disease, and this is all we know upon the subject. This naked manner of contemplating the operation of the causes which affect the human body, admits of more certainty, as it is continually the subject of observation, and experience will rectify its errors.

A cause, then, is merely a phenomenon, which is invariably antecedent and connected with another as its consequent ; and this connection is expressed by the word power,

which is given to the antecedent phenomenon, from its invariable order of occurrence.

Are then the theories of the many celebrated men who have appeared in the medical world, to be neglected and forgotten? Are not the phenomena of the human body, as capable of being regulated by principles, as those of astronomy, natural philosophy, or chemistry? and how are these principles to be discovered, if theory be banished from the science?

We shall now proceed to examine in what hypothesis and theory consist, and attempt to show how far they are to be depended upon as the means of advancing our art.

An hypothesis consists in the imagination of a cause which is supposed to intervene between the real cause, and that perceived by the senses.* When a person, after being exposed to marshy exhalations, is taken with an intermit-tent, he is first affected with a chill, in which the skin is corrugated on its whole surface. The marshy exhalation, and the constricted state of the skin, are the two first links of the chain of causes which characterize fever, as perceived by the senses. Cullen obeying the overweening propensity of the imagination, which attempts to satisfy itself by the invention of more satisfactory modes of explanation, attributed this state of the skin to a spasm of its fibres. Here then the hypothesis consists in the spasm, which intervenes between the miasmata and the chilly state, and which, though entirely fictitious, is said to be the cause of the latter. This hypothesis satisfied the celebrated professor and his pupils, till its novelty wore away, and the excitability of Dr. Brown, a more agreeable supposition, alike recommended by its novelty, and unsubstantiated by fact, drove it from the field; the same may be said of almost every other medical hypothesis. In Paris, there has arisen a new fancy, which fixes this imaginary being intervening between the primary cause and the disease, in the intestines and stomach. Instead of

* See Brown's *Lectures on the human mind.*

the spasm of Cullen seated in the skin, and the excitability of Brown dispersed over the whole system, Broussais imagines the disease to consist of an inflamed state of the intestinal canal. As few persons die in the first attack of fever, it is difficult to prove the existence of this inflamed state of the lining membrane of this passage; and besides, appearances of inflammation occur without any other cause than the simple powers of the arteries, and therefore any proof drawn from this source must be equivocal. Yelloly found that persons who had died from hanging, exhibited the mucous membrane of the intestines in a high state of apparent inflammation. Dr. Seeds and Dr. Parrish, state that animals bled to death, exhibited the same appearances. As it has been found too, in cases of death from other causes, it is certain that when discovered after fever, particularly a long time after the first cause has ceased to operate, it cannot be considered in any other light than as an hypothesis. Dr. W. Philips proved that the lungs and the stomach, were covered with injected vessels, in animals who died from dividing the par vagum. Mr. Brodie has shown, that arsenic applied to wounds, killed animals, and the stomach was found apparently inflamed, though no poison had been applied to it. These facts then shew, that an inflamed state of the capillaries occurs from other causes, and in other situations; and that it can by no means be regarded as the result of the operation of miasmata, though it is found among the morbid phenomena which are discovered after death. It might with more propriety be considered as a result, than as a cause of that class of diseases; though even this is problematical, since it is discovered in subjects who have died suddenly from a state of the most perfect health. It is therefore only a concomitant of these affections, and must, when regarded as their cause, be considered as entirely hypothetical.

In chemistry, the same thing has frequently occurred. Previous to the time of the celebrated Lavoisier, the phenomena of combustion were explained by a principle called

phlogiston ; this process was believed to consist in the destruction of that principle, and till it was again renewed, the body remained incombustible : sulphur, for instance, during combustion lost its phlogiston, and became sulphuric acid : if this acid was again exposed to chemical operations, which restored the sulphur to its original form, it was then said to have regained its phlogiston, and be susceptible of a new combustion ; this is a true example of an hypothesis ; it is entirely an imagination, invented to explain a phenomenon, by the addition of a cause which has no existence. Its advocates, on finding that the burning body acquired weight during combustion—that the sulphuric acid was heavier than the sulphur consumed, were obliged to invent another hypothesis to render the principle of phlogiston tenable : they supposed that the phlogiston lost by the sulphur, during combustion, possessed a principle of levity which by its loss during the combustion of the sulphur, rendered the body heavier, a supposition which is explained very satisfactorily, by the increase of weight gained by the sulphuric acid : this hypothesis, like the former, had the same defect ; it wanted the evidence of the senses, and as it kept the minds of the most illustrious chemists of the last century employed in its support or refutation, much labour was lost, which might have been better directed. The union of oxygen with the combustible body, presents a simple explanation of this phenomenon, which is supported by fact and demonstration to the senses, without the aid of any creation of the fancy.

This species of imagination is not, however, without its use. The mind anxious in the support of truth, it has been said, is stimulated to inquiry, by the desire of substantiating the modes of accounting for phenomena it may have invented. It therefore has a tendency to direct investigation to certain objects. It is, however, nothing more than the direction of an inefficient instrument to a limited range of natural observation ; an instrument which from its inadequacy may be well compared to a telescope, whose glasses are obscured ; when used to observe the appearances of the

heavens, accident may with such assistance, make known some facts ; experiment, with better appointed means, must eventually determine them.

The present state of chemistry, when pursued according to its purest principles, proves this truth. This science has arisen upon analysis, and has owed its success to the maxim that all bodies must be considered as simple, till they are proved to be otherwise. It is a system of pure observation and inquiry, resting upon actual demonstration to the senses, without the admission of any hypothesis whatever.

In reading the book of nature, however successful our conjectures may be, it is as absurd to suppose a knowledge of her operations previous to examination, as it is to obtain a knowledge of the opinions of men, before we study them ; and when we reflect upon the immense labour consumed previous to the age of experimental inquiry by adopting hypotheses as real interpretations of nature, the evils of this mode of inquiry will be properly appreciated : they constituted almost entirely the doctrines of the ancient philosophers on physical science, and in the present age, medicine abounds with these follies : to investigate nature is to observe facts, and to mark the indissoluble connections with each other, as cause and effect, and thus in the operations of life to give efficiency and power to every effort, whether in the arts of taste, of convenience, or necessity. The nature of an hypothesis, then, instead of simplifying, really multiplies causes, and envelopes in mystery the facts, of which true science consists.

Theory is not widely different :* it consists in the observation of a number of facts, noting the points in which the causes which produce them agree, and characterizing in general terms their features of resemblance, and thus forming a principle, by the knowledge of which, their peculiar operation may in all circumstances be exactly known and determined. Thus it is observed that, in animals, a daily supply of food is

* See Brown on the philosophy of the Human Mind.

necessary for their health and strength ; and this general fact is drawn from reiterated experience, and a wide circle of observation ; but it is true, only within certain limits. If the position be confined to quadrupeds only, it is certain that considerable quantities of food daily repeated, are found to be necessary for the perfect health of the animal. If we look into other classes of animals, as the amphibia, we find that the rattlesnake can live for many months without solid food of any kind, and grows fat ; this circumstance again modifies the theory. Put the animal into the torpid state by cold, food becomes unnecessary for an undefined length of time, and the first position, that all animals require considerable quantities of fluid and solid food daily repeated, is again modified and shewn not to be universal.

The act of generation is essential previous to the re-production of every individual ; this is a general principle, which applies to quadrupeds, to birds, to the amphibia, and to fishes. It is not, however, universal ; in some insects, two generations are re-produced without this operation, provided it be performed on the one preceding. In vegetables, the union of the sexes is not indispensable ; the male and female exist on separate plants in the lombardy poplar* and weeping willow ;† the female of the former, and the male of the latter, have never been brought to this country, and yet they are extensively propagated ; this principle, then, is not at all universal.

In chemistry, Lavoisier, from observing that oxygen entered into the composition of many acids, supposed that it was essential to all, and it was, therefore, denominated the principle of acidification. It, however, forms acids, alkalies, and bodies possessed of the properties of neither—oxides, and water. The theory, therefore, falls to the ground. All bodies possess attraction, and the harmony of the solar system is explained on this general principle. By it, the exact position of each planet in its orbit, at any given period,

* *Populus dilatata.*

† *Salix Babylonica.*

past, present, or future, can be ascertained, and it is called the Newtonian theory. To conclude, however, that because the great masses of matter which roll through the sky obey this principle, that all others do, would be erroneous. A body thrown towards another, rebounds on approaching it within a certain distance ; if glass be rubbed, light bodies are attracted and repelled by it ; the position, therefore, that all bodies attract each other, is by no means general. Its precise limits can only be ascertained by observation, and it is upon this circumstance that the value of the theory of attraction rests. These remarks extend to all subjects of physical and medical inquiry. Emetics evacuate the contents of the stomach, and when given in small doses, also the intestines ; and this is true of almost every article of the class, and constitutes one great and valuable property of these bodies in curing fever. To say that it is universal, however, is not at all true. The sulphate of copper is emetic and astringent, a fact which, in cases of diarrhoea where an emetic is indicated, is of great use. Theory, then, is nothing more than the inference that a property is common to many individuals, and is only pernicious when it is extended to cases in which no observation has been made, and which is not justified by the nature of things.

In the cultivation of science, the mind is the great instrument, and the mode of its application is simple. It receives through the senses all its knowledge, and there is no fact of physical science, which is not admitted through these avenues. The existence of the senses themselves, and of the brain, the material organ of thought, is known to us only through them. The facts of nature, united to each other in inexplicable and indissoluble union, constitute this knowledge, and in this relation they are treasured for future usefulness ; and it is only when we venture to surround them with mystery by the invention of imaginary causes ; to extend too far the operation of those which are real, or limit their range farther than actual observation will justify, as

in theory not properly generalized, error, and practical evils in the operations of life, are the consequence.

The cultivation of science is, then, a matter of common sense. Nature, however, decides the comparative success of individuals by the strength and industry with which she endows them in pursuing it. To some superior minds, these powers have been so lavishly bestowed as to dignify them with the distinguishing epithet of genius.

It is to genius, or the faculty of invention, that the greatest discoveries have been owing, and it is from the misapplication of this power that most of the errors of the world have originated.* The man who by great penetration invents the best means of accomplishing an end, when without his interference it would be impossible; who discovers in ordinary circumstances the seeds of useful improvement, which otherwise would have been neglected; who restores order out of confusion, whether in the moral or the physical world, when the best interests of his species are in jeopardy, is deservedly regarded as a superior being. This quality of mind principally depends for its success upon the cautious examination of the relation of cause and effect, and it is upon accurate discrimination amidst the irregularities of nature, and a reference of each phænomenon to its proper antecedent, that the man of genius achieves the wonders which distinguish him. This, however, is a painful and laborious task. To examine with labour, to collate, to separate effects, and to connect them with their proper causes, is a task to which few are equal; whether the arrangement and formation of principles, or the more simple office of observation of individual causes, is the object. Genius, in its highest degree, requires a happy combination of judgment, memory, and imagination. If the former be predominant, whilst memory and imagination are deficient, the character is correct, though inactive, and phlegmatic; if memory, it is disposed to survey the labours of others, rather than invent

* See Brown's Lectures on the Human Mind.

and make improvements ; if imagination, all its efforts become more or less unreal and useless ; and it is to this latter defect, that men of this class are most prone. Instead of collecting facts and arranging them, they have been too much disposed to fly from the field of labour, and to wander in the more delightful and seductive paths of fancy. It is to correct these aberrations, more particularly, that the following remarks are principally designed.

Having now considered the operation of the mind, in its simple natural course, as that wonderful instrument by which the mighty structure of modern science and civilization has been raised, we proceed to detail those causes which derange its movements, and to which have been owing the ages of darkness and misery, which have long clouded the world, and still continue, more or less, to weaken its most enlightened communities.*

The pride and vanity attendant on public stations and great celebrity, have contributed to augment the errors of science. Men of extensive fame glory in pretending to see deeper into the recesses of nature, than nature herself ever intended : they invent hypotheses ; they build theories, and distort facts to suit these aerial creations. The celebrity of many of the most prominent men of the last century, will, ere long, be discovered only in the libraries of the curious, and recollected only by the learned ; whilst the phenomena they pretended to explain continue in the same unvaried order, in the same beautiful succession ; the fancies with which their inventive imaginations have surrounded them, will be found to have disappeared with the fame which gave circulation, and the authority which enforced them on the easy minds of their respective ages.

The susceptible character of youth, in adopting the crude suggestions or ingenious follies of their teachers, lead also to error. It is necessary that authority should have weight ; and it is the result of the limited range, within which atten-

* See Lord Bacon's works.

tion is circumscribed by the multifarious occupations of life ; the judicious and independent decide for themselves ; the feeble and the flexible, borne down by the current of authority, adopt alike the truths and errors of the age, and become the saviours or the destroyers of their fellow-men, according as chance may have cast their lot upon life's wayward stream. The modest and the humble, decide with caution and deliberation, and their opinions are valuable ; the arrogant and the self-sufficient are hasty, and they are dangerous. Truth is an object dear to every well regulated mind ; vanity, the desire of superiority, or indolence, may conceal or destroy it ; judgment, candor, industry, and zeal in inforcing, supporting and promulgating it, are qualities which claim the respect, as they deserve the gratitude of mankind.

A more fruitful source of the errors of the scientific world, is derived from that disposition, which induces explanations of the phenomena of nature, by principles drawn from subjects with which the mind is more familiar. This mode of philosophy has been of extensive evil in medicine. During the prevalence of the mechanical, chemical, and mathematical systems of philosophy, all the changes of the body were referred to them : the doctrines of Keil, Paracelsus, and Borelli, who attempted to explain the phenomena of life by the sciences with which they were most conversant, still remain conspicuous instances of this error. During the prevalence of chemistry in the age of Louis the XIV. vast labour was bestowed in analysing vegetable remedies, from the belief that the diseases of the human body were produced by an acid or an alkali, which was supposed to pervade the system, and that it was necessary to discover which of these principles every remedy possessed. This folly was relinquished, after finding that the most noxious and the most innocent substances were composed of the same ultimate materials ; that the poison of the viper and gum arabic owed their qualities to a various disposition of the same elementary substances ; and it is no later than the conclu-

sion of the last century, that the most enlightened physicians explained many of the phenomena of life, on the supposition of the presence of too large a quantity of oxygen in the system : the late revival of the use of the magnet in the cure of tic doloureux, rheumatism, &c. by some of the most able physicians of Europe may, with propriety, be referred to the same disposition of mind to be directed and biassed in its pursuits, by the fashions of science. Other branches of knowledge obey the same influence.

Metaphysicians still speak of impressions, as if our thoughts were the result of impulses, or our ideas of images reflected from a glass. Indeed, so prevalent is this source of error, that it is almost impossible to divest ourselves of its influence. Electricity has been introduced to explain the phenomena of the system, and was once extensively employed in removing its diseases ; and galvanism, now a more conspicuous object of attention, fills the same office in the present philosophy of the nervous system. The disposition to simplify the causes of nature, has had an equally extensive effect. The excitability of Dr. Brown explained, without difficulty, all the phenomena of the body ; the pain which was produced by a red hot iron, and the pleasurable sensation excited by the softest substance, the irregular and terrible symptoms of the hydrophobia, and the sensations of perfect health, were all expressions of the various states of the same power, which under the bold and hardy invention of this innovator in medicine, explained all the phenomena of our complicated system, from the greatest to the least.

The four elements, earth, air, water, and fire, to which every thing was resolved by the chemists, illustrate the same defect. The properties of medicines, in fact, of all bodies, were once believed to be reducible to four ; to heat, to cold, to moisture, and to dryness ; and from hence arose the temperaments, the bilious, the phlegmatic, the sanguine, and the melancholic, a division which, though it prevails to this day, is as groundless as the qualities upon which it origi-

nated. This disposition to simplification, however, is only defective when in excess, and conducted by hypothesis, and not by observation and experiment. The theory of gravitation embracing, in the wide compass of a single principle, all the phenomena of the ocean, the air and the land, the planets and the comets of our system, exhibits a splendid result of this faculty. The variety, the beauty, the order of this vast sea of effects, the result of only one quality of matter, whilst it enlarges our ideas of the Creator of the universe, gives a happy illustration of the proper application of this mental propensity—the proper arrangement of facts under their proper causes, by the faculty of generalization.

But if, extending this great principle beyond its proper limits, we venture to embrace the phenomena of the attractions of affinity and of aggregation, of electricity and magnetism, the principle is inadequate, and we fall into error. There is great simplicity in the works of nature; they are united and moved upon one great plan, but placed as we are without the curtain, we can only discover by the observation of the phenomena, how far the operation of a principle extends, and to attempt to simplify farther, leads to erroneous conclusions. It is to this love of simplicity that mankind owe the attempts of empirics to effect cures by medicines, which unite in the compass of a single substance the power of relieving all diseases. The mystery in which they are enveloped stimulates curiosity, and the patient pays largely to the pretender for his health, whilst nature performs the cure. It is to the same mysterious pretension, that boastingly promises to relieve hydrophobia, cancer, and other diseases beyond the power of our art, that the success of this species of imposture is owing.

It is said that mystery of explanation, as it entices youth to study, has a highly beneficial effect. That it has great power over the mind, is clearly proved from the fascination it throws around the modern tales of fiction; the great effect it gives to the character of freemasonry, an institution which has been of extensive benefit, and under

the direction of bad principles has done much mischief in the world. The same cause increased the celebrity, influence, and effect of the elegant letters of Junius, which kept in a state of alarm the jealousy of British liberty; and the story of the man in the iron mask, on the same principle, gave interest to an incident little more important to mankind than an idle Arabian tale.

The errors produced by one extreme, induce mankind to embrace the contrary. In the early ages of every science, occult qualities claim great attention. Among savages, every phenomenon of nature is supposed to be produced by spirits, which have their residence in the bodies which they move. As philosophy advances, these imaginary creations are rejected, and every thing is supposed to be the result of natural causes; and thus from the extreme of superstition, they pass into atheism.

The effect of superstition appeared extensively in the first application of chemistry to the *materia medica*. The influence of the planets, alchemy, animal magnetism, the discovery of panaceas, and of medicines capable of prolonging life, are enumerated among the follies of that era.

The doctrine of signatures, which ascribed virtues to remedies drawn either from the figure or the colour of the planets from which they were taken, had an extensive sway, and it is only within the last seventy years that it has been banished from the elementary books of the most respectable schools of Europe.

All the phenomena of the natural world were explained by Des Cartes by matter and motion, a doctrine which followed that of occult qualities, which his predecessors supposed to be the active powers of the physical world. The influence of this system was extensive upon our science at one period. The action of medicines was explained upon the principle that the corpuscles of bodies operated upon each other by their figure, size, and density; so wide spread and lasting was this error, propagated principally by the influence of the great Boerhaave, that a celebrated writer as

late as the conclusion of the last century, explained the operation of mercury by its specific gravity.

The accurate descriptions of disease, and the examination of remedies, by Boerhaave and Cullen, gave way, for a time, to the specious doctrine of stimulation of Brown, who believed in only one species of remedy and two forms of disease: the science thus vibrated between a complication of remedies, in the time of Boerhaave too complex, and in that of Brown too simple.

This disposition to pursue extremes, applies particularly to the adoption of new remedies. When a medicine has been too much extolled, opinion weakened by habit, and by the current of fashion directed to other remedies, at length discards it altogether: Mercury, in the cure of syphilis, long balanced between excessive and blind partiality, and utter rejection; at length, after sarsaparilla, nitric acid, opium, guaiacum, which at various periods had adopted its place, had been fairly tried and abandoned, it was again reinstated. At present, in England, it suffers a temporary defection in public opinion; and though no substitute has been proposed, there can be little doubt, that at least the constitutional symptoms of that terrible disease must be ultimately cured only by this remedy, for it is satisfactorily proved, in small doses, to afford the best relief in those chronic inflammations, and ulcers produced by its improper exhibition.

The passions of physicians have proved of essential detriment to the advancement of their art. This point is so evident, that it hardly requires discussion. The disputes between the followers of the Grecian and the Arabian physicians, occupied a great part of the sixteenth century; those of the followers of Galen and Paracelsus were equally warm, and equally futile, leaving the science comparatively little cultivated, when the works which are the result of their labours are considered. The faculty of Paris, under the dominion of Galenical medicine, published a decree against the use of antimony, which was rescinded only as late as the year 1666, a proof of the folly, as well as the per-

nicious effects, which attend the operation of disputes in medicine as well as those of religion, when inflamed by opposition. The prejudice in favour of particular remedies produced by fashion, gives a temporary excitement to the medical mind, which in most instances is excessive. The influence of the celebrated Stork of Vienna, introduced narcotics in the cure of schirrus, a prejudice which occupies, in cancer of the womb, considerable, though undeserved attention to this day. The weight and respectability of men acquainted with medicine, incautiously given in favour of particular remedies, has had much influence in exciting the prejudices of physicians. The celebrated Mr. Boyle made a considerable collection of remedies of supposed experienced virtues, which for a time claimed attention, with but little improvement to the science ; the powder of the duke of Portland, used in gout, will long remain a fatal instance of the credulity of our science, excited by a great name. The eau medicinale d'Husson, more lately, may be placed under the same head.

The errors, which arise out of the use of improper language, are equally extensive. It is evident, in a science which professes to treat of phenomena so concealed, and with difficulty measured, as those of the human system, that its descriptions must be general, vague, and unsatisfactory, without a language rigorous, precise, and properly adapted to its varying modifications and changes : the different kinds of pain, the nameless combinations of symptoms exhibited in the same disease ; the appearances of the tongue ; the various states of the pulse and of the secretions, are all important to designate the precise state of the system, and have, in our present medical language, very imperfect expressions.

We have now exhibited the human mind, as the great instrument of advancing science ; as the means by which man has been raised from the rude and savage state, to the happiness, power and grandeur of civilization. We have regarded it like the telescope of the astronomer, or the tests

of the chemist, as possessed of certain powers, which require a proper and natural direction, in order to produce the greatest effect ; and equally as liable to be perverted by defects within itself, as by extraneous causes. In the multiplicity of avocations with which we are occupied, and from the preference which we are disposed to give to our particular pursuits, it is natural to underrate all others ; a fate which has been remarkably that of the human mind. Let us then, seated as we are, upon an eminence, which looks far over the wastes of time, pause for a moment, to take a hasty view of some of the most striking and imposing objects which claim attention upon its surface, and perhaps we may retire from the prospect with more mature views of the importance of this august subject.

The dawn of civilization was first perceived in the east ; the kingdom of Babylon was for a time the seat of the arts, the sciences, and the splendour of the world. The nations upon the borders of the Mediterranean, received its lights, and Egypt prepared, in a gloomy superstition, the frames of the governments of Greece, and laid upon extensive foundations the empire of Rome ; a mighty structure, which, after overshadowing for many ages the surrounding nations, gradually fell to ruin, amidst the trophies of victory, the refinements of luxury, and the monuments of grandeur. Europe displays an assemblage of states no less magnificent. In that distinguished portion of the globe, the circle of power enlarges beyond the knowledge of any former period, and opens to the view a series of results, the termination of which, promises to be too extraordinary for the most sanguine imagination to conceive. These are the creations of the human mind : but they decay, and from this circumstance we derive additional evidence of its august character : For whilst kingdoms pass away, wealth and power disappear ; and the monuments of victory are obscured by the new successions of history, the works of the mind alone are imperishable. The hero, the statesman, and the philosopher, retain their places in the intel-

lectual repository of nations, after the theatre of kingdoms on which they appear, has passed away. The majesty of Cæsar would have been characterised, in the dark and bloody qualities of Sylla or of Marius, if a mind equally remarkable for elegance of taste, sublimity of purpose, and contempt of danger, had not raised him to the highest seat of Roman fame, given unrivalled splendour to the career of his successes, and concealed in glory, the fields of desolation through which it laid.

The title of great, is appropriated only to men of distinguished minds. Alexander, Pompey, Alfred, and Charlemagne, would probably in this distant age be unnoticed ; if extraordinary talents, exalted enthusiasm for knowledge, or a desire of extensive usefulness had not consecrated their names. Men of more imperishable fame, are discovered upon the surface of history. The genius of Bacon rises in new grandeur on the discoveries, which in bright reversion from its sepulchre it daily calls into existence ; Homer, still the giant of his art, clothes Greece in new splendour ; Shakespeare confirms morality, by hideous pictures of vice, and strong delineations of virtue, and transmits the character of his nation to distant ages. Milton by his numbers stays the influence of religion over nations sinking in licentiousness, and proclaims the triumph of genius, when enlisted in the service of human nature.

Other examples might be cited : Astronomy furnishes the best illustrations, because it is nearly perfect, and the fate of its principal cultivators is secure beyond decay. Under the influence of the genius of Copernicus, of Kepler, and of Newton, commerce is busy in every sea, and millions live by the impulse derived from their labours. Clad in the strength of nature, these illustrious men appear on the stream of time, in simple and unborrowed majesty ; and though, like the current on which they are borne, their origin be obscure, yet like it, their progress is bounded only by the dissolution of the system, the laws of whose mechanism they have so happily explained. Aware then of the

importance of the subject which has occupied us, let us follow in the steps of these great men. Emulating their observation, their patience and their industry, let us prepare to place the science of medicine upon the elevated basis of principle, and to secure the great benefits which it promises, under the auspices of the enlightened philosophy of the present day.

ART. II. *An Essay on Strictures of the Urethra.* By H.
G. JAMESON, M.D. of Baltimore.

My situation as surgeon to the Baltimore Hospital, and my private practice, have furnished the following cases of stricture of the urethra. On some future occasion, the views of American and European authors, on the subject, will be given.

CASE 1. Thomas Williams, an aged and invalid seaman, had laboured long under a severe stricture of the urethra, accompanied with habitual retention; he mostly discharged his urine by drops. There was not much impediment to the introduction of the catheter, till it passed beyond the bulb. For several days preceding his death, there was a dryness and an agglutination of the urethra, which, added to the extreme sensibility of the part, rendered the introduction of the catheter wholly impracticable. On examination after death, the following appearances were observed. The whole of the membranous part of the urethra had become ossified—it was contracted to the size of a crow quill, and in its course from the triangular ligament to the entrance into the bladder, it held a straight direction, wanting, of course, the degree of curvature of this part of the urethra. The prostate, and vesiculæ seminales, were indurated and considerably enlarged—beyond the stricture, the entrance to the bladder was perfectly free. Immediately under the

urethra, that is, between the urethra and the rectum, was found a duct which was ossified, and terminated at the triangular ligament—two or three other ducts or openings passed out through the prostate, and there terminated. This case could not have been cured by caustic.

CASE 2. I was requested by Dr. Mackenzie to attend, with Mr. Richardson, then his pupil, a Mr. H. of this city, aged about 50, who had long had a stricture of the urethra, accompanied with occasional retention; the bladder was then greatly distended; there was total retention, excruciating pains, chills, flushes of heat, general soreness over the abdomen; the system was in a state of fever; the antiphlogistic course of treatment was instituted; attempts were repeatedly made to pass the catheter, but without success.

These measures were too long trusted to—while we were deliberating, about the necessity or propriety of the operation of paracentesis, the urine began slowly to pass off, and although the discharge was involuntary and inconsiderable, the patient was much relieved, and therefore unwilling to submit to the operation. He died. It may not be amiss to remark here, that all experienced practitioners are familiar with the fact, that cases are met with in which the bladder becomes distended to its utmost limits; and, having arrived at that state, the sphincter muscles relax in some measure; the urine flows gradually, and increases, till the discharge exceeds the supply by the ureters, and thus the patient is eventually relieved. Although such cases are not uncommon, yet every practitioner will recollect, that in those cases of retention, where the bladder is greatly distended, rupture of the urethra now and then happens, and is followed by gangrene, dreadful sloughing, fistulous openings, and what is more common, perhaps, by death. I trust the following cases will induce the reader to believe with me, that by the operation, which I have since practised, this patient would in all probability have been saved. But where shall we find a precedent for such a measure?

CASE 3. Mr. —, from a neighbouring county, was ad-

mitted into the Baltimore Hospital, in the year 1818, labouring under a rheumatic or gouty affection of the bladder and urethra, which so strongly resembled a fit of stone, that he had come in for the purpose of being sounded. Such was the difficulty, arising from the morbid sensibility of the parts, to the introduction of the catheter, that it was not till after many trials that I was enabled to decide, that there was no stone in the bladder. By a long continued course of aperients, mucilaginous drinks, opiates, warm bath, &c. this patient was entirely relieved. There was no stricture in this case ; I have thought proper to notice it, on account of the singular circumstance which I am about to relate. On many occasions, during the more severe inflammatory symptoms, when the sound was in the bladder, the muscles connected with the urethra, caused the instrument to play up and down, although the penis was quite relaxed ; and indeed, it required a pretty firm grasp of the sound to prevent the motion. This action of muscles was altogether involuntary and very painful. I have observed this circumstance in a slight degree since, in several cases ; and Charles Burril, Esq. of this city, a gentleman who has devoted much time to the treatment of strictures, has told me he had witnessed the same fact.

The fact which I have just noticed, was the first link in the chain of circumstances, which led to the adoption of my present views of stricture. Although the state of things, here in view, did not lead to stricture, still it excited in my mind the query, whether so powerful an action of muscles, acting at right angles with the course of the urethra, might not subject the urethra to a species of strangulation. This supposition was greatly strengthened, by the next case which I have recorded, and has been fully confirmed, at least to my own satisfaction, by my subsequent experience.

CASE 4. Joseph Scott, a coloured man aged about sixty years, had some difficulty for years in voiding his urine. He had long felt pains in the region of the pubis, and

through the pelvis generally ; but he never suffered from retention till the 17th of August 1820. There had not been any pains of the penis, thighs or about the anus, indicating the presence of stone of the bladder. This morning he was urged early to discharge his urine—he found much difficulty, and to use his own words, he “ strained till it brought him to his tiptoes,” with extreme pain, and forcing down, which lasted several minutes, and yet only a few drops of water were discharged. He sent for an empirical practitioner, who gave him oil of juniper, and other stimulant diuretics. The bladder, by one o'clock, was greatly distended and in extreme pain. The empiric passed in a catheter ; the blood flowed freely, but no urine. Other aid was requested ; an active antiphlogistic plan of treatment was instituted. Having passed the catheter, blood again flowed freely, and constantly choked the instrument by coagula. I was consulted, and saw the patient on the 18th, the day after his attack. A further trial of the antiphlogistic treatment was advised, before we resorted to tapping the bladder. In the afternoon I succeeded in drawing off a great quantity of water, by passing the catheter high up in the bladder, and pulling out, for a few minutes, the coagula of blood as they continued to form in the instrument ; the catheter once cleared of the coagula, the urine flowed freely.

It does not seem necessary to enter into any detail of the symptoms, in this singular case. It may suffice to give a brief summary of them. The patient remained in a state of the most extreme suffering, nine days after I first saw him. High fever, chills, excruciating pains throughout the pelvis and whole abdomen, great prostration, and insatiable thirst, were the most prominent symptoms ; with delirium at night, and clammy sweats. The introduction of the catheter was extremely painful, and at times could not be effected, owing to the entrance, (as we afterwards learned,) of the bladder being obstructed by a tumour, the base of which laid across the neck of the bladder. In passing the catheter through the urethra, and some distance into it, there was a

remarkable dryness, and an agglutination of their parietes, which gave the sensation of something tearing before the instrument. On several occasions, and never at longer intervals than two days, I drew off upwards of two quarts of urine, always containing more or less blood. This always afforded much relief, but the bladder was never empty ; the blood which flowed into the bladder, added to the copious secretion of mucus from its internal coat, kept up a constant deposit of matter too dense to pass through the catheter. This gradually accumulated, and deprived him of the relief which the catheter had previously afforded.

I have already remarked, that the sound was obstructed by a tumour, or some extraneous body in the neck of the bladder. The patient died, obstinately refusing to be operated on. He was once tied, and every arrangement made for proceeding to the *lateral operation*,—in a fit of alarm he made a violent struggle and broke the bandages, after which he persisted in opposing the operation. Dissection afforded an opportunity of understanding this singular case. But before I proceed to notice the dissection, I deem it advisable to notice some of the affections of the bladder, which present diagnostic signs, similar to those of the case before us. The diseases which might be mistaken for that of our patient, or which strongly resemble it, are, polypus, a soft calculus, an encysted calculus, the bladder divided into two chambers, an elongation of the inner membrane of the bladder. There is but little difference between polypus and the disease in view ; and no signs or symptoms can be pointed out, by which we can distinguish, during the life of the patient, between simple sarcomatous tumours, and polypus of the bladder. Fortunately both are very rare ; the removal of either by an operation, must be exceedingly hazardous ; and it is only where the symptoms imperiously require the interposition of our art, that the surgeon should venture to operate.

I had proposed the lateral operation in this case, because

the circumstances of the case were very urgent, leaving no hope of recovery from any other method of treatment. I doubt whether the operation would have increased the sum of suffering of this patient; it is also very uncertain what chance it would have afforded of relieving him. There would have been much risk of hemorrhage; the danger of tearing the tumour from the bladder, would have been great. Whatever might have been the issue of an operation, I had the satisfaction of ascertaining, that I had formed a correct notion of the disease, during the life of my patient; and it will be recollected, that Desault twisted off a tumour within the bladder and saved his patient. I have said the tumour might have been mistaken for a soft calculus, so often mentioned in books. Mr. B. Bell resembles some which he has seen, to dough: Dr. Bailie in his *Morbid Anatomy*, to mortar. Still, in all these cases, we may almost invariably distinguish every variety of calculus, by their gritty structure. The urethra may be shut up by disease, and no sound can be introduced; here we must lie under much uncertainty. Under such circumstances, provided the patient was not otherwise unfit, from great debility of habit, and the symptoms of the case alarming, I should unhesitatingly operate,—open the bladder, and then be governed by circumstances.

I mentioned encysted calculi: these are extremely rare; Mr. John Bell seems to doubt whether any such cases have ever existed; Dr. Smith of New-York saw a case, and many others might be mentioned. It can only be relieved by an operation, which, in all probability, would be attended with much danger from hemorrhage and inflammation.

A division of the bladder into two chambers, is another disease which resembles in its symptoms that of our patient. Dr. Bailie in his *Morbid Anatomy* gives a case furnished by Dr. Ash, in which there was a transverse division of the bladder, and when the catheter was passed, only a small quantity of urine could be drawn off; after the operation there remained a considerable tumour above the pubis, pre-

senting all the signs of a distended bladder. The patient died, and it was found by dissection, that the aperture between the two chambers was nearly closed. It seems probable, that in such a case relief might be afforded, by the early and careful use of a long flexible tube, passed frequently into the upper chamber; this would probably keep the patient comfortable, and retard the progress of the contraction, which would most probably increase in proportion to the irritation occasioned by retention in the upper chamber. To have a correct conception of this affection, we have only to bring to view the formation of an hour-glass. It is related of Dr. Ash's case, that the catheter did not relieve him in the upper chamber, but he was subject to occasional involuntary discharges of a quart of urine at a time: the failure may, however, have been owing to the want of a correct knowledge of the case during the life of the patient.

With regard to elongation of the inner coat of the bladder, Dr. Bailie mentions that this coat of the bladder may become so elongated in some parts, as to form irregular processes of considerable magnitude. If this affection should obtain with an enlargement of the prostate, the case might be mistaken for a tumour, and lead to disastrous consequences in the event of an operation. To distinguish between these cases, much care and judgment, and practice with the catheter will be necessary.

Dissection of the above case.—The distention was so great that the attachment of the peritoneum to the bladder was found as high as the umbilicus, which filled nearly the whole of the abdomen, and though still entire, its external coat was eroded in small spots by gangrenous ulcers. Its coats were greatly thickened and condensed. The prostate was much enlarged; its lobes pressing into the neck of the bladder, and forming together a considerable tumour. The tumour within the bladder grew from below the base of the prostate, and therefore may be said to proceed from the bottom of this viscus. It proceeded from a thick strong membranous base

passing the entrance into the bladder at right angles, but by an arrangement which seems wholly inexplicable, the base was divided and attached to the bladder on both sides, and yet the tumour formed but one body. The catheter not having always passed through this division of the base, had perforated the base of the tumour in several places ; each of these perforations required considerable pressure of the catheter, and was attended with a copious flow of blood.

To the many singularities of this case may be added, that the stricture was not in the urethra, but within the bladder. This will be easily understood, by recollecting that I have said the lobes of the prostate had entered the bladder, and that the tumour grew still further within. And hence it was, that the catheter had to pass three inches beyond the *caput gallinaginis*, before it entered the cavity of the bladder ; add to this, that there was a deposite of grumous blood and mucus, and we shall see the necessity which existed for passing the catheter unusually high in the bladder. The tumours opposed the greatest obstacle to the introduction of the catheter, but they, as also the membranous part of the urethra, had that indurated cartilaginous feel, peculiar to stricture of the urethra.

The membranous part of the urethra had the thickness and density of strong calf-skin—owing no doubt to long continued inflammation—but more especially to strangulation of its vessels, my views of which, shall be reserved for a future occasion. The urethra was found embraced between the fasciculi of the levator ani muscle. This muscle, in passing from its connection with the rectum to that with the pubis, is attached to the upper part of the urethra, and consequently when the prostate and neck of the bladder become swoln and rise further in the pelvis, these fasciculi of fibres of the levator ani muscle must be put on the stretch. Two injurious consequences will arise from this state of things ; these fibres, thus in a state of tension, will become stronger and more irritable, and this will compress that part of the urethra which passes through them. Accord-

ingly this was found to be the case ; the levator ani muscle was seen to form a partition similar to that of the triangular ligament, but between it and the prostate.

CASE 5. Kerby was admitted into the Baltimore Hospital on the 30th of September 1820, having suffered a rupture of the urethra within the scrotum thirty-six hours before his admission. He has been affected for several years with terrible strictures, first near the neck of the bladder, and afterwards along the whole course of the urethra as he supposes, but more particularly in that part of the urethra within the scrotum. No bougie or other instrument could be introduced for some time past by any practitioner to whom he had applied. His urine had long been passed with much difficulty, attended with almost habitual retention. The disease had originated from venereal affections, and the glans penis was destroyed.

The day preceding his admission, while in the act of passing his urine by forcible straining, the urethra gave way, and the scrotum became speedily filled with urine. Violent pain and inflammation immediately succeeded ; gangrene soon supervened over a large part of the scrotum, and a part of the integument of the size of a dollar was completely sphacelated when he entered the Hospital. There was great prostration, with severe chills. I saw him too late in the evening to afford an opportunity of operating, which I supposed absolutely necessary. The part was well fomented in fresh warm lime water, and the whole swelling carefully wrapped in a soft linen rag well spread with the common epispastic plaster, so as to secure its close application to the entire surface. His bowels were opened, and he commenced the use of the bark.

The morning after his admission, I found that although the scrotum was becoming every hour more injected with the urine, that still the blister had prevented the extension of gangrene ; it had bursted and the urine was trickling over the surface. It was not, however, sufficient to prevent the rapid increase of the swelling and the injection of the urine, which

could not fail to extend the gangrene over the whole of the cellular structure and skin of the parts affected. I concluded on opening the perineum and the urethra as far as possible, a measure sanctioned by Drs. Chapman and Harper. I could not pass any instrument into the urethra ; a probe could hardly be passed into the penis ; the canal being so much indurated and almost obliterated, as to render the operation very difficult. An incision was made along the raphe down to the urethra ; after a long search I succeeded in passing a probe into it, where it opened in the perineum, but the patient having passed his urine just before the operation, (without my knowledge) I could not venture to cut into the bladder nor pass in a trocar, which I might have done if the bladder had been distended. I found the bladder so closely contracted and so much irritation about its neck and the prostate, that I did not pass in a flexible tube as I had intended. I succeeded however in affording a free outlet to the urine from the scrotum, and in an hour after the operation he passed his urine freely through the wound. The swelling of the scrotum diminished rapidly, but the patient continued to have severe chills and sick stomach during the evening, and became somewhat comatose. I advised the scrotum to be dressed with the common blistering ointment, washing the sore at each renewal with warm lime water. Bark and elixir vitriol were ordered. October 2d.—Patient more cheerful, more energy in the pulse, urine flowed through the incision, but the wound seemed to heal too much by the first intention—passed in my finger and broke it open ; the quantity of bark was diminished, the anodynes, which were given from the beginning, with the moderate use of wine, were continued.

3d. He was better ; his chills were very slight ; he had some little appetite ; the sloughing of the scrotum progressed well, the mortification not having increased after the action of the blister ; basilicon, diluted with spirits of turpentine, was substituted for the blistering ointment—lime water, bark and vitriol, were given, as yesterday : a part of his urine came through the opening in the scrotum. It is un-

necessary to pursue this case further in its details; it may suffice to state, that he continued to improve rapidly, as regards the symptoms of retention, and the healing of the parts which had run into mortification. But a new difficulty now presented itself; the penis was impervious to a small probe, and this necessarily prevented the wound in the perineum from healing, as the urine passed in that way.

The patient having regained his health tolerably, and the ulcer of the scrotum being healed about three weeks after his admission, he was subjected to the following treatment; a small trocar was passed in at the urethral orifice, and conducted with all possible care, in the direction of the urethra, till it entered the opening in the perineum, then withdrawing the trocar, a small flexible tube was introduced, which was left open at the end, because it could not be passed into the bladder. On the fourth day after the operation, there was some fever, but the patient was doing well—the urine all came the right way—most of it through the tube, though some of it by its sides. On the fifth day, he complained of the tube causing pain, from its roughness, produced by the action of the urine upon the gum. It was withdrawn, and shortly afterwards he passed his urine in a good stream, with ease, but said there was some grit in it. On the seventh day he passed his urine frequently, but freely—there was no fever; the wound in the perineum looked well, and was closing rapidly; a strict regimen was continued—the incision in the perineum was washed with whiskey, but no bandages were applied. It may be proper to remark, that this is the only dressing used in my subsequent cases, except on one occasion, with a view of restraining hemorrhage. The patient was directed from this time, that is, one week after opening the anterior part of the urethra, to pass the catheter occasionally himself. Towards the end of December, he exposed himself by misconduct, and suffered some pain in the bladder and urethra, with much sediment in his urine. The *uva ursi* and aperients were used beneficially for some days, afterwards the bal-

sam copaiba had a good effect. On the 6th of January, 1821, the patient declared he had not been so comfortable for six years.

He went out perfectly restored, but owing to his bad habits, he had a slight attack of the usual symptoms of stricture several months afterwards. More extensive experience induces me to believe that his cure might have been more perfect, if I had, as in all my subsequent cases, continued the incision, till I could pass my finger into the bladder, and in opening the urethra through the penis, I should have used a larger trocar. It will be recollected that Mr. John Bell, in speaking of five different methods of tapping the bladder, mentions that of splitting open the perineum, and then passing in a trocar, only to reprobate it; and indeed, at the time, I was not aware of any decided authority for such a measure; nevertheless, if the patient had not emptied his bladder just before the operation, (without my knowledge,) I should have passed in a trocar. However, with the experience I then had, my object was to save life, and I console myself with the belief that, by the measures promptly adopted, I succeeded.

My reasoning on case fourth, had prepared me for aiming at the division of the transverse fibres of the accelerator urinæ muscle, (that is the anterior part of it which crosses the urethra at right angles,) and also that part of the levator ani muscle, which lies in contact with the urethra. The first intention I accomplished by incisions in the perineum, but in the other I could not succeed, from my inability to introduce a sound into the bladder, being unwilling to proceed without this precaution. It will be more in place, however, to speak of theoretical views, after I have shown the value of the practice founded on them by a detail of cases.

CASE 6. James Day, aged about 30, has been affected by stricture eight years, occasioned, as he supposes, by a fall from the mast of a ship, by which he was injured in the perineum. After long and severe suffering, the bladder

partook so much of the irritative inflammation, &c. that it was supposed, before he came into the hospital, that he was suffering from stone in the bladder. Such had been the obstinacy of his case, that every means which could be devised for that purpose, had not removed all doubt in regard to the existence of stone; no sound could be passed, and but very seldom a small flexible catheter.

Encouraged by the favourable termination of the preceding case, I resolved to put into practice an operation which I had long projected, but which I felt unwilling to hazard without some precedent. The patient too, was led to solicit it for the same reasons which influenced my own decision.

On the 2d day of December, 1820, I operated in the presence of a respectable class of students, and several of my medical friends. The patient was tied as for lithotomy; an effort was made to introduce a small flexible tube and a gum elastic bougie, both of which the patient had sometimes introduced. I could not get them further than a little beyond the bulb. The patient expressed a wish to introduce the bougie himself; he was untied, but could not succeed in passing it; but observed it had got into "the old hole, and that whenever it entered into that part, he never could pass the instrument on that day." The bougie had, no doubt, entered a sinus formed by the enlargement of one of the ducts of the prostate gland.

He was tied again, and a flexible metallic bougie passed in as far as possible—a little beyond the bulb; an incision was now made along the raphe, about an inch and a half long, beginning about an inch below the scrotum. There appeared an unusual quantity of fatty and cellular substance, which rendered the parts indistinct, but the fibres of the accelerator urinæ muscle were distinguished and divided—the termination of the corpus spongiosum in the bulb, was freely cut into. The left fore-finger was now employed in feeling for the sound, and a sharp-pointed crooked bistoury directed by it into the urethra; the urethra was split open

about three-fourths of an inch; then straining open the wound in the urethra as much as possible, by the sound, I was enabled to slip a common straight director into the urethra, and from thence into the bladder. A finger was now passed into the rectum to satisfy myself that the director had entered the bladder; having ascertained this, I passed a straight blunt pointed bistoury along the groove of the director, till I was satisfied it had entered the bladder, then an incision, about a line in length, (as near as I could determine,) was made on the left side of the urethra, withdrawing the bistoury and reversing the director; the bistoury was again passed in, and an incision to the same extent made on the right side. By these transverse incisions, I intended to cut the sphincter muscles which surround the upper part of the urethra, and more especially, I wished to divide some fibres of the levator ani muscle, which arising from the pubis, pass down to be connected with the rectum, and in their course, embrace the urethra, so as under certain circumstances, to produce strangulation of that tube. Having completed the incisions, I passed into the bladder a large flexible catheter—the urine flowed freely through it. A little lint was introduced into the wound, and the patient carried to bed. Soon afterwards it was ascertained that the hemorrhage, to rather an unpleasant extent, existed. I withdrew the lint from the wound, and introduced a piece of sponge, which I secured by a T bandage. He continued to bleed pretty freely; but it was now ascertained that he had been too much stimulated by brandy before the operation. Cold water was now applied to the perineum, which checked, in some degree, the hemorrhage. When he had lost a quantity of blood, which no person present estimated at more than sixteen ounces, a strong feeling of syncope came on, occasioned more, I believe, by his fears than from loss of blood; the hemorrhage ceased entirely, and did not again return. He took a full anodyne at bedtime, and had a comfortable night. During the he-

morrhage, some blood passed through the catheter, but the urine flowed freely through it during the evening.

The next day after the operation, the patient was comfortable, and urine passed freely by the catheter; I directed very low diet and anodynes, if pain should render them necessary. On the second day the patient was doing well; the pulse was soft and somewhat tremulous; I directed a dose of oil. On the third day all was favourable—the sponge had come away—the urine flowed well through the tube. No advantage would arise from pursuing the detail of this case any further. The patient left the hospital in a few weeks, perfectly relieved from every symptom of stricture. He died two years afterwards of yellow fever, without having experienced any return of the stricture during all that interval.

CASE 7. The two foregoing cases having terminated favourably, gave me some confidence in my theoretic views of stricture, and served to encourage others, who were afflicted by the disease, to submit to a similar operation.

At the time these two cases were operated on, there was a third patient, Francis Mason, in the Hospital, labouring under severe confirmed stricture, accompanied with a fistula in perineo. He became anxious to undergo an operation.

During my winter course, 1821, I performed an operation similar to that of James Day, (in the presence of a respectable class of students, and several of my medical friends,) with this difference, that after the urethra was opened, and the sphincter muscles divided, I passed a crooked bistoury into the fistulous opening already mentioned, and slit this opening into the incision along the raphe of the perineum. There was no hemorrhage, nor alarming symptom, and in a few weeks this patient went out, wholly freed from both the stricture and the fistula.

CASE 8. During my winter course 1821-2, a case of confirmed stricture presented itself in the person of a negro man. In addition to a deplorable case of stricture, there was in this case an induration of the cellular structure of the perineum, and an enlargement and induration of the whole of the lower

part of the scrotum, forming altogether a tumour of the size of a very large apple, and of a firm scirrhouſe consistence. Here it became necessary, after opening the perineum and urethra, together with the division of the sphincters of the urethra, to cut away this diseased mass. In doing this, the testes were laid bare to their investing membranes. The skin of the perineum being sound, enabled me to dissect off a large indurated mass along the urethra, which however left that tube exposed about three inches. All the indurated parts were dissected away, excepting a small part which had extended under the tuber ischii, on the left side, and could not be cut off without much risk of injuring the urethra. This part gradually softened and recovered its healthy condition. The tumour dissected from the urethra for about three inches, and the testes hanging out, covered only by the tunica vaginalis, presented a frightful looking wound. But the sphincters having been divided, a catheter introduced, and the integuments with much care brought together by means of sutures over the testes and urethra, left the patient in a condition from which something might be expected, provided his system was sufficiently healthy to secure the healing process.

The operation was a severe one, and the issue doubtful for some time; but the wound healed well, notwithstanding his debility was great. His recovery was slow, but I had the satisfaction of seeing this man totally rid of the stricture, and of the painful tumour, which was doubtless incipient scirrhus. This case presented a singular fact that has not been noticed—the urethra is seldom involved in diseased parts adjacent to it. This fact has been more clearly manifested in my subsequent experience. In this respect, the urethra resembles the large arteries, which are seldom affected by suppurations about them. They are tenacious of their vitality, and are capable of continuing their functions for a time supported by their vessels alone; and this is a condition which the urethra possesses in a high degree. More of this hereafter.

CASE 9. Mr. J. Armor, of the eastern shore of Maryland, solicited my attention to his case in the month of March, 1822. He had been afflicted with the usual symptoms of stricture of the urethra for three years past, and had suffered much pain. I tried several instruments ineffectually, but succeeded at last in passing a very small flexible catheter without its stilet. With this instrument, I at once discovered a calculus situated about the prostate gland. I advised an operation, which was intended to remove the calculus, and also to overcome the stricture. The patient having been secured as usual for lithotomy, with the assistance of Dr. Chapman and Dr. Mackenzie, I divided the parts covering the urethra along the perineum about an inch and a half. The urethra was now found, as I had expected, in an indurated state; it was split open freely, and, having divided the sphincters of the upper part of the urethra, I now introduced my finger, and found a small calculus firmly impacted against the prostate, and lying close down upon the rectum; so firmly was it impacted in the parts, that I experienced a good deal of difficulty in bringing it away with small forceps. No other remarkable peculiarity occurred in the operation; on dividing the corpus spongiosum at the bulb, there was a torrent of blood, such as I had never, before nor since, witnessed in any operation. It was well calculated to excite alarm, but it was momentary. The loss of blood did the patient no injury.

This patient, some years before this operation, had been brought into extreme peril by an attack of phrenitis, tending strongly, it was supposed, to dropsy of the head. His health had been precarious, and he had occasionally felt some apprehension of a return of that disease. On the evening succeeding the operation, he was seized, without any visible cause, by a chill, and this was soon followed by a slight convulsion; from this time symptoms of phrenitis began to be manifested, and he was several days so ill as to make me totally despair of his recovery. Active antiphlogistic measures were pursued, and were eventually successful. Dur-

ing his other sufferings, the wound in the perineum progressed favourably, and at the end of four weeks I had the pleasure of dismissing him quite relieved of every symptom of stricture.

CASE 10. Johnson, a coloured man, had been long affected with stricture of the urethra; and while employed at a fire he fell from a considerable height with his legs astride a bench, so as to strike the perineum violently, by which the urethra was ruptured. He felt severe pain at the moment, but it soon abated so as to enable him to resume his labour. Twenty-four hours afterwards, he observed a swelling in the perineum immediately below the scrotum. It soon acquired the size of a large lime. In addition to this circumscribed tumour, the scrotum gradually enlarged. He applied to a student of medicine, who advised free purging with saline purgatives. But neither the prescriber nor the patient were aware of the nature of the complaint. There were several circumstances in the case calculated to deceive an inexperienced person. The patient said he passed his urine freely and without pain, and stupidly concealed the fact of his having been affected with stricture. Dr. Bain was now called in, and at once discovered the nature of the case. He instituted suitable depletion, diluents, &c., but finding the patient no better, he called on me the day after.

On the eleventh day after the accident, I found the pulse small and weak, the patient under much terror, the scrotum greatly enlarged; during the preceding night it had fallen into gangrene to a considerable extent in its lower part. Actual sphacelation had taken place to a small degree, and some discharge of a thin purulent darkish appearance was coming away. The swelling of the scrotum was extended so as to meet that in the perineum, the whole forming a large unseemly tumour. The part of the swelling in the perineum had suppurated, and a considerable quantity of pus was collected. The patient being closely questioned, and the danger of any concealment on his part strongly pressed, acknowledged that the scrotum had been enlarging with every

effort at passing his urine. But still he concealed from us the circumstance of his having been affected by stricture.

Upon introducing the catheter as far as the rupture of the urethra, I found it indurated and much contracted. I proceeded, in the presence of Dr. Bain and a number of medical students, to make my usual incisions into the perineum, and laid the urethra freely open. The opening in the perineum afforded a free outlet for the urine, both from the bladder, and also from the scrotum. The gangrene was dressed with the epispastic ointment till the parts assumed a healthy aspect; the sore was washed with lime water. When the inflammation had abated in the scrotum, a flexible catheter was occasionally introduced. The parts all healed well, and the patient, in a few weeks, regained perfect health, with complete exemption from stricture. This patient was probably about thirty years of age.

CASE 11. Mr. James Blair, of this city, in middle life, has been affected by stricture of the urethra upwards of sixteen years. During all that time no means within his reach were left untried. All the benefit he derived from the best medical aid, was occasional mitigation of his sufferings. The stricture grew worse from year to year. For two years prior to consulting me, no instrument could be passed into the bladder, and he has long been subject to severe chills, and now and then retention, attended with the most excruciating pain. These spells of pain are attended with violent straining and bearing down of the pelvic viscera. His sufferings were such as frequently to put his life into the most imminent hazard. He generally relieved himself by passing in a bougie of the size of a small knitting needle, (made of whalebone,) till it stuck fast in the stricture, just beyond the bulb, then withdrawing it the urine flowed in a small stream. Feeling a conviction, from the nature of his sufferings, that he must soon perish, he concluded, after much deliberation, on undergoing an operation, which I ventured to assure him might be performed with safety, and with a prospect of certain success. In the month of May 1823,

he submitted to an operation, and with the assistance of Drs. Amos Bain and Chapman, I performed it. The patient was tied as for lithotomy—an incision was made through the perineum down to the urethra; a sound had been introduced to the bulb—guided by this, the urethra was laid open. I now divided the triangular ligament both below and above the urethra. In doing this, it is obvious I had to cut through the urethra both below and above. My forefinger could now be introduced through the remainder of the stricture, by applying a force which, though safe, was considerable. Having passed my finger up against the prostate, I now passed in a director, and along its groove a straight bistoury, so as to divide the sphincter muscles surrounding the urethra. I now satisfied myself by passing a finger into the bladder, that my incisions were perfectly free. A flexible tube was now introduced through the penis into the bladder. There was but little hemorrhage. Nothing very remarkable occurred in the subsequent treatment. My patient, however, suffered at times, a good deal from a disposition in the bladder and parts associated with it, to press violently downwards; this was more particularly the case, when it became necessary to open his bowels; the action of the rectum excited the bladder into action while inflamed; from this cause he suffered considerably, but it was always speedily subdued by a full anodyne. He had but little fever, and never any symptom of peritonitis; a few doses of salts and ol. ricini, with two bleedings and a very low diet, were all the means employed. The tube was worn two weeks, but changed occasionally, after the first week, on account of its becoming rough from the effect of the urine on its interior, which rendered it necessary to withdraw and cleanse it. He kept his bed two weeks—before the end of the third, the perineum was healed so as to prevent the passage of the water. In one month the patient was perfectly well. This gentleman has remained perfectly free from every symptom of stricture, and has enjoyed fine spirits, and a vigour of constitution to which he had been a stranger for many years.

The reader will have observed that I have mentioned one peculiarity in the operation, which is cutting the triangular ligament, and passing in my finger to the bladder. My reflections on this subject had led me to expect advantage from such a measure, and it is one which I now invariably pursue; that is, I take care to divide the triangular ligament, after which I can, in all cases, pass my finger so far as to direct the straight director upon it with certainty, into the bladder. And having divided the muscles around the membranous part of the urethra, I satisfy myself of the extent and sufficiency of my incisions, by passing a finger into the bladder, before introducing the flexible catheter. This is a circumstance of peculiar importance in this operation for stricture, since, in a majority of cases, in which the operation would be advisable, no staff or sound can be passed into the bladder: to know then, that a person well versed in the anatomy of the parts, can at all times, by dividing the triangular ligament, pass his finger into the bladder, notwithstanding there be a stricture high up, is highly important, and has been generally overlooked.

CASE 12. Mr. H. C. of this city, requested my attention to his case, in the month of June, 1823. He had been many years affected with stricture, and had repeatedly availed himself of the best advice. The plan of caustic had been vigorously pursued; also the usual means for dilatation. His constitution being affected, exhibited a morbid debility, from the effect of salivation. The mercurial treament left him worse. The stricture also increased. A few weeks before I saw him, he had had a severe attack of bilious fever, and during his convalescence he suffered much pain and difficulty in making water, to which was soon added a painful swelling on the left side of the urethra within the scrotum. I found this swelling about the size of a small lemon, and threatening suppuration. I advised the application of Goulard's lotion, and an active antiphlogistic course of treatment, on account of considerable symptomatic fever; also with a view to arrest the suppuration. These measures

greatly improved the condition of the patient, in regard to his general health; but it was found, in two or three days, that suppuration was inevitable. Warm poultices were therefore directed, and while the suppuration was slowly advancing, or at least the swelling continued to feel very hard, the urethra bursted during the night. The patient not being aware of the danger of his situation, omitted sending for me, and being much engaged, I did not visit him till about the middle of the next day. I found the scrotum greatly distended with urine, gangrene had taken place to a considerable extent, and a part of the integuments, about the size of a half dollar, immediately around the root of the penis, on the left side, had become completely sphacelated. The first glance was sufficient to explain the nature of the case; the urethra had given way during the night, and the urine having been freely injected into the scrotum, led, as is usual, to speedy mortification. Before I left the house, I covered the scrotum with blistering ointment, taking particular care to apply it closely to the whole surface; this I did effectually, by spreading the ointment on small pieces of soft old linen.

Three hours afterwards, I was prepared to perform upon this patient my operation for stricture. I had previously tried to pass a bougie, but could not, and the swelling and inflammation being now still greater, I could not succeed in introducing any instrument. With the assistance of Drs. Chapman and Bain, I proceeded to dilate the urethra with the knife, until I could introduce my finger into the bladder. The urethra was much indurated, and contracted to a very small size. A common flexible catheter was introduced into the wound in the perineum, and left in the bladder. The swelling of the scrotum diminished speedily, the gangrene was arrested, and the patient, from the time of the operation, was comparatively comfortable. The pain, which had been great during micturition, was now removed, the swelling soon subsided, and the case assumed a favourable aspect. The scrotum was dressed for about a week with the

blistering ointment, which formed an easy comfortable dressing. The integuments, to nearly the size of a dollar, sloughed out, as also all the cellular structure situated beneath it. A small portion of salts was directed now and then, and occasional anodynes. There was some difficulty in keeping the straight tube in the urethra, from the disposition of the parts to eject it ; it was difficult to tie it to any part of the body, on account of the pain which the tube produced, when he had occasion to move himself. The patient was directed to watch it well, and to pass it into the bladder as often as it moved outward.

At the close of two weeks, his health had improved much ; the swelling of the scrotum was almost gone ; the hardness which had existed had disappeared, except a little thickening, without any soreness. It was now found that the sloughing of the cellular structure had been of considerably greater extent than that of the integuments. This, of course, formed a hollow under the skin around the opening, into which I could introduce my finger. I was much gratified to find the urethra lying safe. I could trace it, like a cord, about an inch and a half, but could neither discover where it had been ruptured, nor any other evidence of its having been diseased, except that it felt thickened and somewhat too large. I now tried to pass a probe, but could not succeed more than about an inch and a half, where it came into contact with the contraction, having the indurated feel peculiar to stricture. Attempts were ineffectually made for several days to pass a bougie.

From the time I had operated on the perineum, I anticipated the necessity which would exist, of opening the urethra through the penis and scrotum, and now the period had arrived most suitable for its performance. On the 28th of June, I passed a long lancet-pointed trocar, of large size, through all that part of the urethra which was impervious. It was done in the following manner : I passed my forefinger and thumb into the opening left by the sloughing, and could then take hold of the urethra as it lay along below,

and somewhat between the *crura penis*. Then having carefully passed the point of the trocar into the urethra, through the *meatus urinarius*, (which I did with very little pain to the patient,) till it met the obstruction ; I forced in the trocar, having its cutting edge between the *crura penis*, pointing upwards and downwards, in relation to them ; with the thumb and fore-finger of the left hand, already introduced, I could slip the urethra on to the point of the trocar, as we bait a fishing hook, and thus guide the instrument till it had passed through that part of the urethra which lay within the scrotum ; the remainder of it being firmly bound in the perineum, I was enabled to drive the trocar straight on till it met my left fore-finger, which had now been withdrawn and introduced into the wound, still open in the lower part of the perineum. This done, a flexible catheter of very large size was introduced. There was no hemorrhage attending this operation, and contrary to what I expected, there was almost no pain, swelling, or inflammation, succeeding it. The tube was changed at the end of a week, afterwards every day or two, for the purpose of cleaning it. In about a month, the patient was well, with this exception, that at the part which had sloughed as the wound healed, the integuments, owing to the loss of the cellular structure, settled down, as we see after gunshot wounds. In consequence of this sinking in of the surrounding parts, a contraction was produced in the urethra, not so much by an actual diminution of its canal, as by a pressing in of the integuments, which forced its wall in on that side. This produced some obstruction to a free flow of urine. The patient was directed to wear a short tube, which he found inconvenient. He was then advised to pass in a bougie beyond this obstruction as often as he could make convenient, and gradually to increase the size. This he but very imperfectly complied with for a few days, and then neglected it altogether, believing, as he now was comparatively comfortable, that this difficulty would wear away. He suffered more or less inconvenience from this state of things for some weeks,

when he was seized with symptoms of bilious fever. A few days after his confinement, I was distressed to find that there was much difficulty attending micturition, and that the part which had formerly been subjected to suppuration, was again running into the same state. Measures were taken to prevent such a termination ; saturnine applications were constantly applied, and the general treatment had been actively antiphlogistic. But in spite of my endeavours to the contrary, the part speedily suppurated, and the urethra again burst during the night. In the morning, at a late hour, I found the scrotum largely injected with urine, and a spot about the size of a quarter dollar actually mortified. The scrotum was covered carefully with blistering ointment, after opening the part in a point where there was the most distinct fluctuation ; through this opening, the urine was discharged several days. The epispastic ointment was continued, and kept the mortification within safe bounds, but the lower part of the scrotum sloughed to a considerable extent, and indeed I am satisfied that under any other application than the cantharides, the whole scrotum would have sloughed off, if the patient could have survived such ravages. Although I have said the loss of substance was considerable, and was such as to lay bare the testes, in some measure, at their lowest part, still it was not so extensive as to produce any deformity ; the skin was brought together by simply placing the scrotum between the thighs, and it healed well. I had expected that as soon as the inflammation should abate, I should be under the necessity of passing in a trocar ; but I now found that the urethra had been loosened, and that I could pass in a bougie of tolerable size ; this operation was daily repeated without pain, and in a few days I had the pleasure of seeing the canal dilate so as to admit a large flexible tube, which was worn for a few days. Afterwards a large well finished silver sound was introduced once a day. The cure advanced rapidly, and in a few weeks the patient was as well as ever he had been, in regard to the parts which had been affected, in every sense of the

word. The urethra admitted my largest instruments, from this time, with great facility, and my patient has been in good health to the present day.

Before concluding this case, I think proper to call the attention of the reader to a circumstance which I have mentioned—it is this: The urethra, though surrounded by extensive sloughing, and laid bare an inch and a half, remained free from the gangrenous action. This circumstance has also been noticed in case 8. These cases are highly encouraging, seeing that extensive mortification around the urethra, as is thereby proven, need not discourage us from anticipating a favourable result, where we might reasonably fear that the urethra, being involved in the sphacelation, must partake of its ravages. Indeed, the cases of Kirby and Johnson, already related, though less remarkable than the other two noticed, go to support similar hopes. In short, I have seen the urethra bursted five times, and gangrene of the surrounding parts take place to a considerable extent, and yet in all of these cases the urethra remained uninjured by the mortification by which it was more or less extensively surrounded.

CASE 13. Thomas Sweeny, aged about sixty, has been affected with stricture for some years. Some days ago, he was seized with the usual symptoms of retention. His physician advised an antiphlogistic treatment; but finding his measures ineffectual, and that obstinate retention was established, he endeavoured to relieve the patient by the catheter. By his efforts the urethra was made to bleed freely, but his sufferings rapidly increased. After a painful retention of thirty hours, the patient called on me, on the 13th October, 1823. With much difficulty, I succeeded in introducing a small silver catheter, rather more straight than their most common curvature. I drew off upwards of two quarts of water. The urethra was found to be much contracted and indurated. I succeeded in relieving him once or twice a day for a week, each introduction becoming more and more painful and difficult. During this time, I introduced a small

flexible tube twice, desiring him, if possible, to wear it, and to keep it stopped, and discharge his urine occasionally, or if he could not succeed in that, to go to bed and leave the tube open: the parts were too irritable, and he was compelled to withdraw the instrument at all hazards.

Finding the introduction to become so difficult and painful as to threaten that each time would be the last, I advised him to submit to an operation, with a view of obtaining a speedy cure. Aware that the miserable state to which he was reduced, must lead to a most painful and speedy death, he gladly availed himself of my proposal. On the morning of the eighth day after his application, I drew off with much difficulty a small quantity of water, of a stale and muddy appearance. He now told me, that instead of using flax-seed tea freely as a diluent, he had been enduring a painful abstinence from liquids, for the purpose of lessening the secretion of urine. At four o'clock I operated in my usual way, taking care to divide the triangular ligament so as to admit my finger. The patient, untied and put to bed, expressed himself as being quite comfortable. This operation was witnessed by Drs. Bain, Chapman, and Reese, Charles Burril, Esq. and Captain Wightman. It is necessary to remark here, that at the time of the operation, there was not more than perhaps an ounce of urine in the bladder. I saw the patient at bedtime, and found him complaining of a good deal of pain, and was much surprised to find that no water had passed through the tube, which had been left in his urethra. I was distressed and somewhat perplexed, not having met with any thing of the kind before. But recollecting that I had introduced my finger into the bladder, and believing that if the tube was obstructed by blood or otherwise, that the urine would pass through the wound of the perineum, I satisfied my mind with the conclusion that the kidneys had ceased to perform their office. I therefore left my patient, desiring a full anodyne to be taken, with free dilution during the night.

The next morning I found that the patient had had a rest-

less night, having suffered much pain—that he had omitted taking the anodyne, and supposing his pain to proceed from the presence of the tube, he took it out. I attempted to pass my finger into the bladder, with a view of examining whether there might be any obstruction preventing the escape of urine. The part was very sore, and he would not consent to my fully effecting my purpose. He thinks his abdomen swelled, but it is not observable, nor can I suppose that there is much urine collected. I passed a silver catheter nearly into the bladder, but no urine came. I then attempted to inject the bladder with warm water, which produced a strong desire to make water: a very small quantity could be passed now and then through the catheter. In this way he continued to pass a little urine during the day. He took a dose of salts in the morning, and was put into a tub of warm water in the evening, to relieve pain. In the afternoon he withdrew the catheter, under a vain expectation that by removing it he could pass his water. I introduced the catheter again in the evening, and gave a full anodyne. He had a chill in the night, and another next day, supposed, as he said, to have been owing to the coldness of his room. He had some appetite on the second day. The preceding night was bad; he passed but little water; his pulse was not much disturbed this morning, a little too frequent. He said his belly was lank and easy this morning, but that after taking some coffee it was distended apparently with wind—the bladder was much distended. He took about five grains of opium last night; a dose of salts was directed. In the evening his salts operated, without the passage of any urine. I introduced the catheter, and directed an anodyne. In the night he took out the catheter, and finding no water follow he became alarmed at what he had done, and suffering much pain, he sent for me in the night. I again introduced the catheter, but became convinced now that the instrument could not be passed into the bladder. I now exerted all my efforts to pass a tube into the bladder, but after several hours patient but gentle and repeated trials, I could not

succeed, and felt myself under the mortifying necessity of calling in some of my medical friends early in the morning, to confer on the case, believing that nothing but paracentesis of the bladder would enable me to relieve my patient. His cries for relief were however too urgent, and I had to venture on a hazardous measure on the instant. Under pretence of passing in a straight tube through the wound, I carried the point of a small trocar on my right forefinger into the wound ; the point was passed so as to touch the symphysis pubis, then the instrument was passed very slowly in what I considered the best course for striking into the bladder, but having passed it several inches, and indeed as far as it could be carried, I withdrew the stilet, but no water flowed. I was surprised to find that I passed this instrument without the patient's having the least suspicion of my having a piercing instrument, and indeed he said it was not so painful as moving the catheter in the wound. Being thus foiled, and about to retire to ask the aid of some of my medical friends, I recollect that I had yet one flexible tube which I had not tried, of large size. With little hope of success, I took up this instrument, without any wire in it, and passed it as easily into the bladder as if there had been a passage an inch wide, and the urine flowed freely, and thus was I unexpectedly enabled to leave my patient comfortable and full of hope. My reflections upon this case lead me to the belief, that the difficulty was owing to his taking out the tube on the first night after the operation. The result was, the closing of the urethra by some fascia or membranous structure falling across it, and by a lucky hit of the flexible tube this was removed, and all difficulty overcome, as the patient took care after this not to withdraw the catheter.

From this time nothing very remarkable occurred ; but the patient had been brought into great peril, and more inflammation had been excited than in any other case which I had seen ; he therefore, as might have been expected, recovered very slowly. Considerable swelling of the prostate

and neck of the bladder came on, but I had no difficulty in changing and clearing the tube from time to time. He wore it about six weeks. I now advised him to pass in a catheter himself, as often as might be necessary; for although he was recovering rapidly, and the urethra would admit a large catheter without pain or difficulty, he still had not the power to make water. I procured him a large catheter, of flexible metal, which he still introduces at the end of two months, being perfectly well with the exception of having no power to propel the urine from the bladder. For the last few days, however, he begins to pass now and then a small quantity, particularly when he has an alvine evacuation.

It seems proper to remark here, that this is the first case in which I operated on the urethra, where the catheter could be introduced into the bladder. Still it must not be overlooked that this could not be accomplished by his physician eight days before my operation, and that previous to the operation it was only with the greatest care and much suffering on the part of the patient, that I could succeed. Notwithstanding the favourable light in which I hold my operation in confirmed cases of stricture, candour induces me to express as my opinion, that had this patient consulted me before his attack of inflammation, which led to the retention, I think I should have been able to have cured him by dilatation. But of this I shall speak more fully in my next essay.

CASE 14. Captain H. C. has been affected upwards of three years with a severe confirmed stricture of the urethra, attended several months with incontinence and constant dribbling of urine, by which he is not only kept wet and disagreeable at all times, but the skin of the penis, scrotum, and sometimes the thighs is excoriated. When he passes his urine he suffers the most acute pain—he rubs the scrotum and penis violently, raises one leg and shakes it about in agony; he dribbles, strains, involuntarily cries out, and dribbles again, and thus he spends several minutes, sometimes (he thinks) half an hour before he empties the blad-

der of a small quantity of urine. I tried several times to introduce a small sound, but could not force it beyond the bulb, and indeed there was considerable obstruction anterior to the scrotum, and from this point as far as the instrument could be passed, I discovered one of the roughest and most completely indurated urethras that I ever felt. The introduction of the sound was attended by so much pain, that it was quite insupportable, and was followed by a discharge of blood at every attempt. This patient had tried all the usual means under the direction of several respectable practitioners, but found his complaint constantly increasing, and besides, from an increase of his sufferings immediately associated with the stricture, his general health was greatly impaired, and his appearance indicative of some deep-seated and deadly disease. Under these circumstances, I gave him to understand, that in my opinion, his disease had arrived at that stage, which forbid the least hope of a cure, otherwise than by an operation. After long and serious reflection, he determined to avail himself of my advice.

On the 1st of December 1823, I operated, with the assistance of Drs. Handy, Chapman, and Bain. The patient as usual was tied, and a sound passed as far as it could be entered. The urethra now lay prominent in the perineum, and felt like a cord or an ossification; an incision of nearly two inches in length was made along the raphe, and the hardened urethra was exposed. I requested Dr. Handy to make the point of the sound elevate the urethra towards me, but the callosity was such that I could not feel the end of the instrument. I proceeded to split open the urethra along its middle, commencing my incision in the upper third of the incision through the integuments and muscles, and then passed in the scalpel till I felt it touch the pubic bone at the symphysis; entering thus into the triangular ligament, I carried the scalpel down through that ligament, till I had made a sufficient opening for my finger. My finger passed with some little difficulty through that part of the urethra (owing to its hardened state) which lay in connection with

the triangular ligament, till passing through this strait, it plunged into the bladder, which in this case, contrary to what I had usually seen, lay very low in the pelvis. The urine now gushed out in a torrent; I found the opening into the bladder ample, without dividing the upper sphincters; these indeed did not seem in this case to be involved in the disease. It now became necessary to search again for the end of the sound; I withdrew the first and introduced a larger—this was obstructed firmly within the scrotum—the scalpel was carried carefully along the middle of the urethra till it met the sound. A flexible tube was then passed into the penis along the incision of the urethra, for there did not then exist a canal, into the bladder. In passing the tube from the perineum into that viscus, I was careful to ascertain by running the end of my tube on my fore-finger, till I could perceive it enter it. A vast quantity of urine was discharged, perhaps two quarts, a part of which was passed in a full stream through the tube which was left in the wound. It may not be amiss to remark here, that in operating for stone, this patient would have been in great danger of being cut in the bottom of the bladder, owing to the bladder having descended so uncommonly low. The quantity of water found in the bladder, afforded evidence of a very remarkable case of retention, which had become habitual; a peculiarity, I believe, first properly understood and explained by Mr. Hey.

This was one of the most rapid and successful operations I have performed—it lasted but a few minutes. A full anodyne was given and directions left to repeat it occasionally. Soon after we left him he had a chill, for which he took, without advice, warm horehound tea and gin toddy. This brought on much arterial disturbance, the pulse being so extremely rapid and full in the evening, as to excite uneasiness; the patient however said he felt comfortable. This excitement was owing to over stimulation.

It would probably be useless to pursue the detail of this case any further. It may suffice to state that he wore the

tube ten days before it was changed—that he took occasional doses of salts—used a very low diet—that he suffered at times a good deal of pain, owing to a disposition to contraction in the bladder, which required anodynes. There was a gradual improvement, and in a few days the tube was loose, and could be moved in the urethra without producing much pain. In two weeks he was well enough to sit up out of bed, and passed his water with the greatest freedom and ease. The wound of the perineum was closed so as to prevent any discharge, except a little now and then. At the end of three weeks he was well.

It seems advisable now to exhibit the following brief summary. I have reported ten cases in which I opened the urethra, and thereby cured the most deplorable strictures ; and one case attended with a relapse, in which mortification took place, and yet the patient recovered ; making of course eleven successful cases. Among these cases there have been four of mortification of the scrotum, one accompanied with fistula in the perineum, two in which the urethra was opened both through the penis and the perineum. And it is further to be understood, that no unfortunate cases have been concealed, and that from the time I commenced my operations upon the urethra, I have not lost a single patient.

I trust the number here reported, are amply sufficient to establish both the safety of the operation, and the certainty with which we may rely on a cure of stricture of the urethra by it.

Much has been said about the most eligible method of tapping the bladder. I think I have fully shown, that that operation is never necessary except by the method herein recommended, and that it has this advantage over all other methods, that by it you cure your patient of what may have been the cause of the retention, and thereby free him from a return of the disease.

It may be said that retention frequently occurs where there is no stricture. This we must admit ; but my expe-

rience warrants the assertion that paracentesis of the bladder can never be necessary where there is not some mechanical obstruction of the urethra, or some affection of the bladder which acts in the same way. In paralysis we can pass the catheter. If the urethra is obstructed by inflammation, we can almost invariably introduce the catheter after suitable depletion. But often we must bleed to a large amount, or we shall not attain our object; the celebrated Mr. Cheselden tells us, that in a case of this sort he once took away at three times twenty-four ounces of blood in twenty-four hours, and thereby saved his patient. In as much as I intend confining myself in the present essay to matters of fact, I shall conclude with the declaration that I never met but one case of retention where there was no stricture, in which I could not introduce the catheter after free depletion, and in that case I succeeded soon enough to prevent any serious mischief.

In my next essay I shall offer some interesting information in relation to dilatable stricture. It will then be in my power to show more clearly how far we may trust to dilatation, and how it may be best effected. I shall also endeavour to give some explanation of the surgical anatomy of the parts essentially connected with the operation above mentioned.

ART. III. *An Essay on the Autumnal Fever of Brunswick, Virginia.* By THOMAS B. MERRITT, M.D.

THE tract of country in which I live, is situated along the southern border of Virginia, nearly midway between the Atlantic shore and the Blue Ridge mountains, and about thirty miles above the head of tide water. It is gently undulating; near the rivers hilly and broken. Much of the land is unclaimed forest and swamp. The mills on the water-courses are numerous; and the ponds of stagnant

water often cover, during the winter, an extensive district of bottom land, which is for the most part, on the approach of summer, exposed to the intense heat of the sun. The vegetation is rich and luxuriant, and particularly for many years past, since the general adoption of the enclosing and non-grazing system, an abundant mass of vegetable matter is annually left on our fields in a state of gradual decomposition. Our winter is cold; our summer hot, and often dry, so that many small water-courses disappear. But the climate is variable, and its vicissitudes are sudden, changing from the mildness of spring to the cheerless gloom of winter.

The inhabitants are generally moderate in their mode of life; avoiding as much the luxuries of wealth, as they are superior to the wants of poverty. It must however be confessed, a fondness for luxurious living is increasing. Many persons quit the pursuits of industry for the enjoyment of their pleasures, as they depend on the labour of slaves, and not on their own exertions, for the support of their families. Our slaves are treated with humanity; their tasks are moderate; they are well clothed, and have an ample provision of nutritious, though coarse food allowed them.

Our summer and autumnal epidemics belong to that class of diseases usually called bilious.

For the sake of order and accuracy, I shall arrange the forms of the bilious fever, as they occurred to my observation, into three varieties: the simple, the inflammatory, and the congestive forms.

The simple variety of bilious fever being the least complicated, will be in the first place concisely described. It has in reality a genuine febrile excitement, or a marked development of the hot stage, but without any decided symptoms of topical inflammation. This state of excitation is, however, preceded by one of oppression, and followed by exhaustion, or a state of collapse. The most obvious and prominent symptoms of what has been called the forming state of fever, or the stage of oppression, are, a pallid aspect

of the face, with an inattentive and dejected countenance ; a dark or dull livid appearance of the integuments beneath, or around the eyes ; prostration of strength ; a lessening of the general sensibility, with a diminution of the intellectual powers ; loss of appetite, with nausea, and even vomiting ; a weighty and anxious sensation about the stomach ; confined and hurried respiration, accompanied with sighing ; whitish tongue covered with a ropy or glutinous saliva ; a heaviness, vertigo, and frequently an aching of the head ; chilly sensations running over the surface and back, more permanent in the latter part, attended by a pain extending to the loins, or sudden and frequent alternations of hot and cold fits ; and a small, quick, weak, and labouring pulse, changeable as to frequency and force. These and some other symptoms existing, a distressing degree of lassitude and uneasiness prevails. Their duration is however various ; but commonly after having continued for a day or two, and in some cases longer, the nature of the disease is revealed by the supervening of a chill or an ague, one of the pathognomonic symptoms of bilious fever. A full and complete demonstration of the second stage now quickly ensues.

The height to which the febrile reaction now rises, is determined by the constitutional vigour or relaxation, and the weakness or energy of the impression of the cause. The temperature of the body is considerably elevated ; the pulse, which in the preceding stage was doughy and inelastic, now expands, and becomes lively and resisting ; the cheek is flushed, and the eye is dull and suffused ; the breathing is quick, anxious, and imperfect ; the lips are parched ; the skin dry ; the thirst great and insatiable ; the tongue foul, and the mobility of the sensorium very evident. The brain is so much disturbed by the increased circulation through it, as to be affected with incoherence, and often with delirium. The secretions are altered in their appearance, and the bowels are more or less torpid.

When this stage is pretty well established, it preserves a steady course for several days. There are usually, however,

daily chills, succeeded by exacerbations of fever, circumstances which determine this modification of disease to be remittent. When the exacerbations take place, the symptoms are then most distressing. The prostration is augmented, the tongue becomes drier, and in fine, all the secretions, except the bile, are diminished.

The stage of excitement having lasted for a time, according to its mildness or severity, from five to ten or twelve days, introduces that of exhaustion or collapse. This stage is announced by the cessation of the symptoms of the preceding stage. If convalescence succeed, the pulse will become softer, less frequent, and contracted in its volume; the tongue will be cleaner and moister; the skin more relaxed and softer, with a reduction of its temperature; the thirst will be less urgent; the breathing deeper and more natural; a deposition of sediment in the urine can be discerned; the fecal discharges will become improved in their appearance, and slight spasmodic pains will take place.

If the case be fatal, all the above symptoms become aggravated and inveterate. The pulse is quicker and weaker; the restlessness and agitation are far greater; the respiration is feeble and anxious; the tongue is darker and drier; the countenance is haggard and hippocratic; the voice is weak and altered; a peculiar cadaverous smell of the body is perceived; and slight or troublesome convulsive fits of coughing follow. Hiccoughs, difficulty of swallowing, twitching of the tendons, visual illusions, and a low and muttering delirium, are the immediate precursors of death.

This gloomy picture, unfortunately too real, occurs only when the disease has run an unimpeded course; for when treated, even by the gentlest means, it usually yields with readiness. On account, however, of the great affinity between this modification of the bilious fever and the next which I shall introduce, I will reserve the treatment to another part of my essay.

The inflammatory has been much the most common and frequent variety of our epidemic.

The symptoms of the first stage of this form of bilious fever, present in their great outlines such close analogy with those of the preceding variety, that an extended description would be a mere repetition of what has already been said. It is important however to remark, that signs of deeper local suffering can often be discovered by a rigid inquiry. Laying aside this occasional violence of symptoms, and the previous state of the patient's health, the deepest discrimination will hardly enable the practitioner to foretel the form which will subsequently be developed.

The stage of oppression continues for a day or two, during which period constant vacillations are evident between chilly and feverish sensations. At one time slight rigors or cold feelings are described as pervading the body, while at another, short, irregular and transitory demonstrations of reaction can be perceived. A complete and regular chill soon follows this fluctuating state. This chill differs very much in duration and intensity; being sometimes so slight and transient as scarcely to be observed; while in other instances, it covers the body with the coldness of death, and lasts for several hours, and even for days. These cases have however been very uncommon; for generally, after an hour or two, the most positive and well marked reaction ensued.

The stage of excitement fully established, ran on generally for several hours, when an abatement of its violence was discerned. Frequently, however, little or no remission took place, until near the same hour of the succeeding day, in which the chill first made its appearance. The disease, when thus formed, commonly preserved an uniform course for several days. However, it often occurred in the tertian type, in which the febrile elevation remained for twenty-four or thirty-six hours, after which a remission more or less perfect manifested itself, and ushered in on the third day another chill. This form was sometimes distinct for a few days, when a chill took place on the intermediate day.

It usually happened in such cases, that there was a difference of force in the chills and consecutive fevers on these respective days, the alternate paroxysms being alike.

There were other types of less frequent occurrence; as they are similar to those which are described in the books, I will pass on to a more interesting part of our subject.

Sometimes, as soon as the general excitement was raised, inflammation was discovered. But it much more generally did not appear until the second stage had lasted for a few hours; and was commonly obvious before the fever abated in the first paroxysm, though in many instances it did not exhibit manifest signs of its presence until the second, third, or fourth paroxysm, and sometimes even later. When the stage of reaction was once confirmed by a rapid and increased circulation, organic weakness and decay, if existing, were generally announced in a short time. The shades and degrees of predisposition are so various and unlimited, and the power of resisting local accumulations is so different in different persons, and in different organs of the same person, that we are forced, at the first glance, to expect that inflammation may occasionally commence at any period of the fever.

If after an attack of bilious fever, the febrile phenomena appear in an aggravated form, the existence of inflammation in some part or other may be inferred. We must then look for some coincident functional derangement, as indicating its seat. The symptoms, which are common to every case of inflammatory fever, let the inflammation be seated wherever it may, are, vascular activity; dry foul tongue; great heat; difficult and anxious respiration; and great general oppression. The pulse in this fever imparted very different sensations to the finger; in some cases it was quick, hard and vibratory; in others it was full, strong, uniform, and frequent; in a third class, it was preternaturally large, slow, and tensive; and in a fourth, it was jarring and fretful. It intermitted in some, after every second or third stroke, or some given number of pulsations: in others, its

intermissions were extremely capricious and irregular. In short, almost every variety of pulse observed to take place in any inflammatory disease, was seen occasionally to present itself. The tongue was almost universally on the first day of the second stage, covered with a white coat ; sometimes with a thick viscid saliva. These appearances usually changed as the fever advanced ; the fur on the tongue gradually assumed a yellowish or dark colour ; its whiteness was observed in some cases to remain on its edges, while a dark streak was traced along its middle. This alteration of colour took place in those patients who had been feebly and insufficiently purged. It was very common as the disease advanced without any control, for the tongue to become dry and parched ; and in those instances where the head and liver were affected, it was often covered with a thick black scurf. The tongue exhibited other appearances less common, as an unnatural redness, or but little change from its natural aspect, or a leaden hue.

An intense and universal elevation of temperature obtained in general, attended by a great dryness and harshness of the skin. These symptoms were in some patients partial and confined. The cheeks were hot and flushed, and the eyes dull and red. The breathing was so short, quick, and imperfect, as to impart to the countenance an expression of anxiety or alarm, accompanied by sighing, fretful, and unceasing uneasiness ; by a general prostration of strength with transient pains in different parts, an oppression about the *præcordia*, and gastric irritability with more or less retching and vomiting. These and some other symptoms may be considered as common to every species of inflammation.

Whenever more organs than one are affected, which usually happened, the disease exhibited a very complicated and involved appearance. The peculiar and diagnostic symptoms of the different seats of inflammation can be given only in outline ; a succinct mention will be made of those only, which are most prominent and important.

The parts which suffered most frequently from inflamma-

tion in our bilious fever, were the brain and its investing membranes, the lungs and their appendages, the liver and spleen, the stomach and intestines, the spinal cord and its coverings, the kidneys and the remaining viscera of the abdomen, and the peritoneum.

The brain being the part that was most frequently attacked, as well as the most important from its relations and functions, claims the first notice. In addition to the symptoms just described, which must be regarded as existing in a milder or more severe degree in this and every other form of inflammation, we may enumerate the following, when the parts in the head were conspicuously affected. A deep and severe pulsating pain in the head ; a throbbing of the carotid and temporal arteries ; an injected and fiery look of the eyes, and pain in the bottom of their orbits, with great sensibility and intolerance of light, and tinnitus aurium, are among the first symptoms. Obstinate watchfulness, intellectual confusion, delirium and coma now ensue ; and as the disease advances in an unobstructed course, the brain is oppressed, and the exercise of all the functions is suspended ; the tongue becomes dry and black. Impressions are not made with energy on the brain, but an indifference of surrounding objects takes place. A striking habitude is discovered in all the senses ; the eyes are now insensible or nearly so, with dilated pupils ; the ears refuse their customary office ; and the touch is dull. An altered and faltering voice ; tremors of the hands ; dull moaning ; petechial eruptions ; discharges of black blood from the nose ; involuntary passing of the fæces ; stertorous breathing, and convulsions, close the tragic scene.

The approach of pulmonic inflammation was in some instances marked and insidious ; in other cases more evident. A pain in the chest increased by its expansion ; an oppressive load, and a sensation of constriction ; laborious and checked breathing ; a dread of suffocation expressed in the countenance ; an expansion of the nostrils ; a heaving of the thorax ; a dusky red or black tongue ; a dark or livid glow

of the cheek, and a staring and prominent eye, usually indicated it. When the tracheal or bronchial tubes were involved, there was little to distinguish it from an ordinary catarrh, except the constitutional disorder, and coincident organic derangements.

Though no doubt could be entertained, that abdominal inflammation existed in many cases, the symptoms were not in general sufficiently distinct and defined to enable the physician to point out with certainty its particular seat. We cannot easily make a correct decision, for the inflammations of the stomach, of the bowels, and of other parts contained in the cavity of the belly, have so many symptoms in common, as to make a diagnosis extremely fallacious and difficult. This difficulty and perplexity were further increased by the extension of the inflammation to contiguous parts, for it was seldom confined exclusively to one organ. It is, however, generally sufficient for all practical purposes, to learn that inflammation actually exists in some parts, as when this is the case, no matter where its seat may be, it is to be treated on general principles, and removed by the same remedies.

When inflammation invades the stomach, intestines, or the peritoneum, it is demonstrated by a soreness or severe pain, on pressure, exhibited in the countenance by anxiety and distress; this pain is increased whenever the muscles on the anterior part of the abdomen are brought into action. Unusual nausea and vomiting, great heat, and an uncontrollable desire for cold drinks are present. The patient lies in a supine posture with his knees elevated and his feet drawn up, and is troubled with eructations and flatulencies. When the inflammation is confined to the stomach and bowels, we may see traces of light arterial blood mixed with the mucous vomiting, or the dark slimy stools. Distinctions drawn with all the beauty and refinement of systematic order and precision, can be found in some of our authors, which will point out in some cases that part of the alimentary tract which is affect-

ed ; but an enumeration of these would carry me beyond my limits ; I must therefore omit them.

Many of our best authors lead us to believe, that hepatic disease is essential to the existence of bilious fever. Dr. Rush remarks in his history of the yellow fever of 1793, that he "was surprised to find so few marks of hepatic affection." Dr. Armstrong, in his able treatise on typhus fever, informs us that he dissected the bodies of two patients, who had exhibited from the commencement, the strongest symptoms of hepatitis, but "on dissection, no marks of inflammation were found in the liver." His solution of this phenomenon is unsatisfactory. I believe in these cases there was really no inflammation. The fact of an unnatural and inordinate secretion of bile, in many cases, led to this doctrine, copied without examination by one from another, until it has become consecrated by time.

When the liver is attacked by inflammation, the patient is distressed with a load and pain in the right hypochondriac region, attended by a pain in the shoulder, a yellow or turbid colour of the skin, and a clay-like appearance of the stools.

Other abdominal viscera, as the kidneys, the uterus, or the bladder, were sometimes inflamed. This was known by pain in the respective regions which the affected organs occupy. The secretion of urine was suspended, in a few instances, without any pain about the loins ; pain, however, in this quarter, more usually accompanied an affection of the kidneys.

Inflammation was sometimes seated in the spinal marrow or its investing membranes ; pain in the neck or back usually indicated its existence. By pressing on the spinous processes of the vertebral column, we find its precise seat from the sufferings of the patient. In some cases, a great soreness in every part of the surface was perceived ; or a particular tingling and spasmodic pain in the extremities ; or a stitching feeling about the pit of the stomach.

For the sake of clearness and perspicuity, the cephalic,

thoracic, abdominal, and other inflammations, have been separately delineated ; but we should not hence imagine that they were presented in this distinct form. Whenever inflammation attacks one part, it is apt to be imparted to those adjacent ; or to excite such vascular commotions as to involve even distant organs in the effect. This gave to our disease an appearance so diversified and complex, that it was with difficulty the physician could be brought to believe that it was the same disorder.

In the two forms of bilious fever which I have already described, it will be remembered, that the action of the heart and arteries was increased ; but in the congestive form, which I am about to define, a striking diminution often took place. This difference in degree of arterial action, in conjunction with an elevated temperature in the two first forms, and a low temperature in this, constituted the most obvious external marks of distinction between the excitive and congestive varieties. Generally, in the commencement of the excitive and inflammatory forms of fever, a degree of venous accumulation, more or less manifest, prevails ; but when the stage of reaction ensues, this state is changed before it arrives at the point of engorgement, and the circulation completely equalized. When, however, the cause of bilious fever operates on a person, on whose system are engrafted the predispositions that invite the accession of extensive venous congestion, it really takes place to such a degree, that all efforts at reaction are feeble, partial, and transitory, and vanish and lose themselves in a state of confirmed engorgement. We must observe, then, that the modification of bilious fever of which we are now speaking, differs from the two first in the occurrence of a more engorged state of the viscera, in the stage of oppression, which is continued, and the evolution of an open form of fever. We therefore have seldom a distinct chill, and the third stage, or that of exhaustion and collapse, comes on without the intervention of the stage of excitement.

The most common organs which are affected by these

almost stagnant accumulations of blood, are the brain, the liver, the spleen, and the lungs. It is very true, that other parts are not exempt from their presence, but I may be excused from particularizing any more, as I intend, in pursuing this subject, to speak of congestion generally, without specifying its locations, and to exemplify it, without tracing in extent its faint shades of difference, when existing in different organs. Its symptoms, in most cases, are similar, and can be said to differ only in degree.

The approach of the most violent and dangerous attacks of fever is often very sudden, but marked by signs which will commonly enable us to distinguish it with facility from the other varieties. The attacks are attended by an extreme and universal lassitude and weakness, and an inability of the limbs to support the body with any degree of their wonted firmness. The head is confused and vertiginous, affected with a deep pain, or overpowered by the sensation of an oppressive load. The eye is heavy, watery, and vacant, either with or without much redness; the vision is glimmering and indistinct, and, when directed eagerly to an object, gives to the eye a wild or fatuous stare. The face is dingy, or has a muddy paleness; the skin is withered and relaxed, with or without moisture. The pulse is low, frequent, and indolent; or struggling, unresisting, and variable. The temperature is low over the whole surface, or the heat is partial, and confined to particular places. The articulation is slow and drawling, or imperfect and stammering, with a voice more or less altered. The appearance of the tongue is at first but little changed, but it at length becomes dark brown or black, especially in those cases where there is some increase of vascular action in the first stage. The stomach is sometimes irritable; the epigastric region is occasionally inflated; the bowels are usually torpid, discharging dark and offensive fæces. The sensibility of the surface is so much impaired, that blisters, when applied to the surface, act not at all, or very imperfectly. The mind is generally confused, but sinks at last into a state of complete stupor. Anxious respiration

and constant sighing takes place. In cases which will end unfortunately, petechiae, involuntary stools, slight and constant hemorrhages, or rather oozings of dark venous blood from the mouth, nostrils, and other parts, and gangrenous blotches on the extremities, announce the approach of death.

It must be known to all, that there have been cases of the disease much milder than those which appear in the above form; but as these differ only in force, and are to be removed by the same principles of treatment, I shall pass them without a separate consideration.

The duration of this form of fever is very various, as we might suppose from a contemplation of its pathology. In many cases, where the attack is introduced by symptoms of great violence, they end in speedy dissolution, unless they are checked by the timely and energetic application of the expedients of art, and ultimately removed, by relieving the congestion by the ordinary means. In some milder and less inveterate cases, we find the system bearing up against the depressing influence of these morbid accumulations for some days, and finally triumphing over them.

In the most violent and malignant attacks, death comes on with the suddenness of an apoplexy.

When the brain is oppressed by congestions, its functions will cease; and as all the other organs are dependent on this for nervous power, and a due and healthful exercise of their offices, they will be more or less involved in disease. The energies of the system will become paralyzed; the animal heat will depart; secretions will no longer go on; the blood will not, by respiration, undergo the necessary changes; the mind cannot continue its operations, but is gradually lost in a state of indifference and profound stupor; the diaphragm and heart cease to act, and all indications of vitality soon vanish.

In more violent grades of inflammatory fever, with symptoms of an implication of the brain, the similitude of the symptoms with those that occur in congestion, renders the marks of distinction obscure. We must attend minutely to the

history of the case, previous to the supervention of coma, to aid us in arriving at a correct conclusion. A high fever, followed by delirium, and, as the disease advances and the symptoms increase in violence, by an insensible and comatose state, will furnish a good diagnostic mark. The existence of excitement, after the first stage in bilious fever, will generally give ample grounds for distinction. But were this mark of difference taken away, we should be very much embarrassed in deciding on some cases, for the symptoms of pressure on the brain are alike, from whatever cause it proceeds.

The two first forms which were noticed, exhibit a resemblance and affinity, so radical and complete, that I shall consider their treatment at the same time. Between the aggravated cases of the simple, and the purest and least complicated examples of the inflammatory form, the difference is so slight, that nothing more is required than the exhibition of mild or powerful remedies, according to the case. In a large majority of the cases of simple excitement, blood-letting could be very safely dispensed with; however, when the pulse indicated the use of the lancet, I did not stop to inquire whether inflammation was or was not present. I believe that its cautious and judicious use, accommodated to the existing state of the circulation, often prevented the approach of inflammation, facilitated the operation of the other remedies, and shortened the progress of this form of the disease. It was, however, in the inflammatory form, that its advantages were most decided and equivocal, and its employment often indispensable, for it secured organs in many instances from lesions, which would have resulted from the great arterial excitement, more effectually than could otherwise have been done. I bled in every exacerbation of the disease after the chill, when I was present, if the arterial action required reduction, which was indicated by a tense or chorded pulse. The good effects of the lancet, when used so as to make an impression on the pulse, were often sudden and astonishing, and this I generally endeav-

voured to accomplish. It not only co-operated with the other means employed in reducing the excitement, but it often rendered their operation more easy, prompt, and effectual. When blood is detracted in such quantities as to make the system acknowledge its loss, purgatives will generally operate very copiously. I have several times been compelled to bind up the arm, in consequence of my patients calling for the close-stool. I sometimes found it necessary to take only very small quantities of blood, but the abstraction of these sometimes brought the most obvious relief, where a tension of the pulse remained, in an advanced state of the disease. I cannot trace and describe all the good effects caused by the lancet particularly, but I shall merely add, that it was a most powerful means of removing the disease itself, and consequently all the distressing symptoms, many of which disappeared immediately.

Purgative medicines were useful, and in fact could not be dispensed with in any case. An almost exclusive reliance was placed in their power and efficiency in all cases where the use of the lancet was omitted, and they proved equally as beneficial as bleeding, where both remedies were employed. They removed the acrid and stimulating loads of fecal and excrementitious collections, which, while remaining, would have been constant sources of serious irritation. They also accomplished much more; for, by their salutary operation, the action of the heart and arteries was reduced, and brought within the circle of health; and, by restoring it to its accustomed range, the natural secretions were resumed, and all the functions of the different organs re-established: in fine, by their operation, the disease was removed, the morbid symptoms banished, and the healthful harmony re-appeared.

The purgatives which I chiefly employed were calomel, jalap, rhubarb, castor-oil, the neutral salts, and the tartrite of antimony, in various combinations. In inflammatory fevers it is necessary, previously to the administration of purgative medicines, to have recourse to the lancet to insure their full

operation. I believe that the first of these cathartics should never be given in cases of high vascular action. If called in the second stage, and I was seldom called before, I found the pulse hard or strong, I generally drew blood until I made a sensible impression. As soon as my patient became quiet after the blood-letting, I in many cases gave a dose of calomel and jalap, which would frequently operate repeatedly and copiously. If it was necessary to resort to any auxiliary measures, the neutral salts answered in most cases extremely well.

I gave my purgatives with the intention to keep up, if practicable, a continued and unceasing discharge. To attain this end, I usually exhibited them in such a manner, that the operation of any one would support the operation of that which preceded it, unless this was very strongly contraindicated. I was cautious, however, to avoid any active purgation about the time of the expected chill; and generally gave the medicines rather more sparingly for a short time before its recurrence. In the rise of fever which ensued, if it was not very high, I often repeated my mercurial cathartic, and assisted its operation by the sulphate of magnesia, or the sulphate of soda, given in divided doses every two or three hours. I directed my patient to be governed, not by the quantity taken, but by its effect.

Objections were often very strenuously urged, even by some physicians, to the use of calomel. That it was sometimes abused, I am conscious; but this certainly was no argument against its prudent and judicious use. One of the objections to it, I consider as puerile and unsubstantial; it was said that it caused a great augmentation of the secretion of the bile. This notion seems to be a near relation of the vague and erroneous opinion, that the increased production of bile is the cause, and not the consequence of fever. Now, suppose the liver to be in the state which I have described, is any thing so well calculated to bring relief, as an abundant secretion of bile, which, in fact, generally takes place. Some members of the profession, and those too among the

most enlightened and experienced, objected to the use of the salts, as bringing away watery discharges. On a close examination, however, I imagine that this opposition to their employment, will be considered as futile and groundless. I believe them to be inadequate and improper in congestive cases, and the advanced and collapsed stages of inflammatory diseases ; and I suppose it was owing, in some measure, to their use in such instances, that prejudices were excited against them. Such cases require more warm and searching purgatives ; but in the excitive and inflammatory forms, nothing, in my opinion, is more suitable and judicious than the use of the neutral salts. It is very true that they do bring away aqueous stools ; but are not these discharges detracted from the mass of the circulating fluids ? This circumstance, conjoined with their cooling nature, renders them extremely proper in those cases where a reduction of heat and arterial action is desired. I do not advocate, by any means, their exclusive employment, but recommend them only as remedies secondary to the calomel, and other more active cathartics. The other purgatives were used in our disease, as it was deemed they were indicated.

Large cathartic injections, frequently administered, were very useful in promoting the action of the purgatives. They were also attended with the most obvious advantage, by removing from the large intestines, irritating secretions and fæces. But as the particulars of the treatment cannot be laid down in this place, I will proceed to notice the use of cold water in this fever.

Partial ablutions, continued according to circumstances, for a longer or shorter time, constituted a powerful subsidiary means, in reducing the heat and other febrile phenomena. Cold water would, in some cases, act almost as effectually as a small bleeding ; and being very grateful to the feelings of the patient, it should be omitted in few cases where the heat is permanently above the natural standard. Injections of cold or cool water were sometimes attended

with the most beneficial results, and pleasant and comfortable feelings.

These measures were often sufficient to bring on a solution of the fever; in those instances, however, where topical disease took place, it was generally advisable to give the calomel in such a manner as to make a slight mercurial impression, about the close of the fever. Whenever it was excited, either by accident or design, before the declension of the febrile symptoms, it was of serious disservice. This mercurial action, and the application of a blister after the reduction of the inflammatory symptoms, generally completed the cure.

If the depletory measures of bleeding and purging were adopted and pursued, the chills would become milder, and often disappear. But in order to prevent them, when the fever had almost vanished, and the stage of collapse was approaching, the use of the bark, wine, and laudanum, with sinapisms and blisters, was required. In the third stage, it was necessary, in many cases, to do little or nothing; it was sometimes requisite to use a moderate tonic course, or even to support the strength with a liberal allowance of wine. The mildest food, in this period of the disease, should be given in small quantities; and as the patient convalesces, the return to a full diet should be gradual.

I have said nothing concerning the treatment of the stage of oppression, because I was seldom called before it had passed. Purgatives, however, assisted the disease to evolve itself; and were almost the only remedies used. In every stage the accession of cool and fresh air should be recommended, but particularly during the second stage, when the patient should be lightly covered; and the whole of the antiphlogistic treatment rigidly enforced.

In the simple and inflammatory varieties of bilious fever, an obvious and regular excitement exists; but this cannot be said of the congestive form, in which the evidences of reaction are entirely absent, or partial, irregular and transient. Almost every fever, as has been said, has a stage of

oppression, however short it may be ; but those cases only are truly congestive, in which the oppression is great enough to suppress all efforts at excitement. The oppression is in some cases pretty strongly marked in the beginning ; but suddenly receding, it is followed by a regular excitement, which runs its course in one of the first described forms.

In the most violent examples of inflammatory biliary fever, in which the depleteive measures were omitted for a time, the patient sometimes sunk into a state of stupor from vascular fulness, attended by symptoms of great seeming weakness ; and in all cases of congestion, the milder as well as the more urgent, the greatest apparent debility existed. It was, however, only apparent ; though it was mistaken for real debility by some of our physicians, who treated it with stimulants.

It is true, in the oppressed and congestive, and indeed in every form, they had some excuse for their mistake ; for every febrile excitement produces apparent debility. Acting therefore in accordance with these views, and conceiving that the disease was one of weakness, they followed a stimulating practice ; and believing this exhaustion to be most abject and excessive, they entertained the opinion that it was to be removed only by the most prodigious doses of stimulants.

From the exposition of the nature of the disease, which I have given in the preceding pages, the results of such a treatment may easily be anticipated. Patients labouring under coma in biliary fever, are, by the employment of stimulant remedies, acting in unison with the disease, and augmenting the oppression, the chief source of danger, plunged into more profound coma, and hurried on to death. Rarely these cases may eventuate fatally ; for the stage of collapse may come on in which stimulants are proper.

Those patients who were treated on this plan, even if affected with a simple form of fever, were thrown into an algid and comatose state. Theoretical reasoning would lead us to conclude, that this condition would result from

inordinate stimulation ; and experience demonstrates, most abundantly, that it generally occurs. We had most positive and conclusive evidence in many examples that came before us, to establish this point ; but even setting these aside, we might infer, from the over-proportion of comatose cases, which fell within the circles of the Brunonian physicians, that many of them were factitious. If this insensible and comatose condition be ascribed truly, to a vascular fulness and turgidity ; every thing which increases the arterial action, every stimulus, morbid and medical, must combine with the forces already in play, and augment the violence of this symptom, and malignancy of the disease.

These physicians resorted to the most unparalleled stimulation ; Brown, himself, would have shuddered at their excesses, and frowned at this strange perversion, and unscientific application of his principles. They administered bark and wine, and ardent spirits ; these, however, increasing the disease, the patient was conceived to be in a sinking state, and larger doses of these and other stimulants were given. These being, in their turn, attended with the same, or similar consequences, were succeeded by still larger doses. A state of collapse, subsequently remedied by stimulants, in some instances ensued in consequence of this practice ; often some organ, important to life, became affected with irretrievable disease.

A little attention to the nature of the congestive form, will convince us that nothing is so well calculated to release the blood-vessels, and bring them into healthful play, as blood-letting. There was, as it were, a stagnation of the circulation ; and by the abstraction of blood, an impulse was often given it, which brought on a renewal of its motion. The blood could not be made to flow, when the veins were first opened ; but after it had issued from the orifice by drops, or trickled down slowly, as the circulation was returned, and became freer, a large and full stream would be supported. It was sometimes necessary to use warm appli-

cations, before we could obtain a sufficient quantity. A large quantity could generally be drawn with the most beneficial effects, the pulse becoming more lively, and the other symptoms less urgent, while the blood was flowing. It was not safe, however, to bleed largely in every instance ; for a reaction would not always follow. In these instances, the loss of a few ounces would indicate the propriety or impropriety of a repetition of the operation. A slight impression might be noticed, which would direct us on this point ; if the pulse became rather more open, with a mitigation of the other symptoms, the bleeding might be repeated with advantage ; but if these changes were not observed, if the pulse was, after the first operation, weaker, the loss of more blood was hazardous. A mixed course of purging and tonics, in these desperate cases, afforded the only prospect of relief. Coma was sometimes removed very speedily by venesection alone.

But the simultaneous and auxiliary application of sinapisms, blisters, and the partial warm bath, was eminently salutary. These remedies brought on a warmth of the extremities, and restored the circulation in them. I sometimes applied heat in the form of warm baths, very expeditiously and conveniently, with obvious success. The gently excitant power of friction, also co-operated to restore the circulation.

Cathartics, as soon as they could be administered, were always employed. From the general torpidity of the intestines, it was necessary to give them in large doses ; and often, to repeat them, to procure their copious operation. Large doses of calomel and jalap, repeated according to necessity, and aided by large enemata, or followed by castor oil, either with or without the mercurial cathartics, brought on, generally, the most plentiful evacuations of dark or tar-like fæces. These medicines, independently of their evacuant operation, commonly placed the system under a slight, or sometimes severe mercurial impression. When this happened, recovery invariably ensued, if proper attention was paid subsequently to the bowels. No plan of treatment can

keep the action of the blood-vessels in that smooth and even tenor, which approaches the healthful, with as much certainty, as a slight salivation assisted by blisters. After the removal of the comatose and insensible state, the indications were plain and obvious. The cathartic plan was continued, and general principles directed all other prescriptions.

Such was the epidemic fever which has visited us annually, for many years past, during the autumnal season. In a country like ours, so diversified in its surface, so fluctuating in its climate, and presenting such a discordant assemblage of inhabitants of all colours, and habits, and manners, it is reasonable to believe, as I have attempted to show, that this disease exhibited several modifications and varieties. There will be some difference between the forms of a fever that prevails at the same time in distant places, and sometimes in the same place; but it is a difference, not between distinct diseases, but between different varieties of the same disease; arising from the more or less combined, concentrated, and violent action of the same causes. It has long been regarded as a leading principle in the science of medicine, that, during the epidemic prevalence of any disease, all other maladies assume the "livery" of the reigning epidemic. There may, indeed, be some difference in the intensity of effect on the human body, produced by the cause of disease; there may be some difference in the malignity of the symptoms; but the disease that has gained the ascendancy, holds, during its reign, undisputed dominion, and all others acknowledge its supremacy. I am sorry to think this principle should ever be neglected by the practising physician. Yet the neglect, or misapplication of it, has given birth to mistaken views and erroneous opinions, and what is worse, to misconceived, and I fear, hurtful plans of treatment.

ART. IV. *An Essay on the Pathological Characters and Sanability of Consumption.*

THE recent literary history of consumption presents several interesting points, attention to which may be instructive not only to the rising members of the profession, but also to many who have been long concerned in its practice. The difference of pathological principles, the complete opposition not unfrequently displayed in modes of treatment, and the occasional happy results of empirical measures, may be said now to admit of more satisfactory explanation, since the nature of the disease has been more thoroughly investigated. It is the peculiar glory of modern physic, that she has availed herself of the aid of pathological anatomy to improve the art of healing, and to furnish the physician with the most direct and energetic means of controlling disease ; but it must be acknowledged, that the treatment of consumption has derived but little advantage from this source ; and we fear that inquiry would show this malady to be as rarely cured at the present moment, when pathology is zealously cultivated and well understood, as in former periods, when it consisted of fiction and hypothesis, and when treatment was too often entirely empirical. It is indeed to be regretted, that the unsuccessful results of treatment suggested by reason and principle, furnish a strong pretext for adopting the bold and blind measures of empiricism ; for when rules of science fail, it may be said, can the practitioner be censured for availing himself of those resources, the efficacy of which is demonstrated by experience ? This specious argument, we regret to say, has too often been resorted to as a principle of action ; and the history of physic betrays too many examples of the fluctuating and contradictory system employed in the treatment of consumptive disorders. It must not be concealed, that the writings of physicians record instances in which persons labouring under complaints de-

clared by experienced judges to be unequivocal symptoms of consumption, have yet recovered from the most hopeless condition, and enjoyed a considerable degree of health for many years, sometimes for the duration of a long life. It is equally necessary to acknowledge, that cases of reputed consumption are daily occurring, which the rules of art fail to control, and which, however, appear to yield to modes of treatment sometimes extremely simple, sometimes completely opposite to that recommended by physicians. The ordinary manner of setting aside the evidence of these reputed cures or recoveries, is by denying the identity of the disease and true consumption, and thus stigmatising the medical adviser with the ignominious distinction of being unable to recognise the difference. We are unwilling to admit a conclusion so invidious to those whose interest it is to maintain that they succeeded in curing consumption ; nor do we regard it as altogether just, that those who have been unsuccessful, should, without inquiring into circumstances, deny the authority of facts established on the testimony of those who must be regarded as competent witnesses. A more liberal and not less philosophical construction would suggest, that there are only three modes in which facts of this description can be explained. Either the instances thus recorded were examples of disease which simulate genuine consumption, or the methods employed were really efficacious, or the disease is spontaneously curable. If we admit the first of these positions, it follows, that our present semiography of consumption is inaccurate ; or, if this be denied, that the same train of exterior signs depends on very different pathological causes. That the methods of treatment were uniformly efficacious, cannot be believed, when they are found so generally unsuccessful in the hands of other physicians than those who originally introduced them ; for it is quite inconceivable, though allowance be made for the usual uncertainties in the quality of remedies and idiosyncrasies of patients, that all trials whatever, when conducted with requisite precautions, and with due regard to

circumstances, should be abortive. The third alternative, therefore, is the only one which remains ; and if it be admitted that the semeiography is correct, and remedies ineffectual, it follows, that consumption occasionally admits of a spontaneous cure,—a conclusion so contrary to every thing that experience has met with, or theoretical considerations teach us to expect, that it is utterly impossible to admit it without further and more positive examination. Yet this conclusion, however absurd it may appear, is not only implied in the evidence of such cases as those to which we have alluded, but forms also the basis of every method of treatment, and every antiphthisical remedy with which modern practice at present abounds, or may afterwards be enriched ; and their efficacy or inutility must be estimated according as the sanability of consumption shall be established or disproved on satisfactory grounds. The progress of science, therefore, and the interests of society require, that all who are concerned in this great professional question, should investigate the facts and arguments on which its decision depends ; and, by inquiring into the pathological character of the disease or diseases referred to the head of consumption, ascertain how far they may be regarded as capable of being cured. This inquiry is undoubtedly embarrassed with many contradictory facts and incredible results, which it may be difficult to reconcile, or explain in a satisfactory manner ; but we are not without hopes, that, by contrasting the nosological characters with the pathological causes of the disease, we shall be enabled to discover whether they furnish evidence of the sanability of consumption, and of the process by which cure or recovery is effected. In the course of this inquiry, we avoid details of phenomena and symptoms, as we presume that these are superseded by the writings of Broussais, Armstrong, Abercromby, Hastings and Laennec ; and strictly confine our present observations to those pathological points which contribute to illustrate the main subject of investigation,—the

extent to which diseases of this description are naturally manageable, or under the control of the physician.

The nosological character of the disease termed Consumption, Decline, or Wasting (phthisis), is derived from the obvious symptoms which the person of the patient presents; and if we adopt, as an average example, the enumeration of phenomena given by Cullen, we find, first, that they are liable to variation, and, secondly, that they do not always depend on the same pathological cause. Of the five circumstances, for example, chosen by this physician as characters of consumption,* three at least, viz. wasting, weakness, and constant fever, are common to every disease in which there is local disorganization, or a process of destruction accompanied with chronic inflammation; and they may be both considerable and conspicuous, while the tissue of the lungs is neither tuberculated, destroyed by ulceration, nor otherwise diseased. Cough and exscretion of purulent matter only are distinguishing characters; and if we are allowed, according to the principles of fair reasoning, to object, that the nosologist himself, in defining the incipient disease, has admitted that one of them is not essential, and is not always present even in its confirmed form, we arrive at the conclusion, that cough, with occasional difficult breathing, is the only pathognomonic sign by which consumption can be recognised. As it is certain that this last symptom does not uniformly depend on the pathological process of genuine consumption, the practical physician is reduced to the conclusion, that there are no positive means of recognising consumption before expectoration has taken place; that when this has occurred, it may arise from other causes; and consequently, if his observation is casual, or confined to particular periods only of the disease, its nature may remain completely unknown. It may also be observed, that it is well known to those familiar with the phenomena of con-

* *Corporis emaciatio et debilitas, cum tussi, febre hectica et plerumque expectoratione purulenta.* *Synopsis Nosol.* G. XXXVI.

sumptive cases, that examples are not unfrequent, in which all the other symptoms appear, and continue till the fatal termination, though no discharge of purulent or tubercular matter had ever occurred; yet examination showed the lungs occupied with tubercles in various degrees of maturity, and other changes in structure. On the other hand, it has been ascertained by many observations, but especially by those of Laennec, that the destructive process which constitutes genuine consumption may be considerably advanced, without giving rise to the fever, weakness and wasting, which are uniformly ascribed to it.* It is chiefly to circumstances of this description that the difficulty of ascertaining the effects of medical treatment, and powers of remedies in the management of such disorders is to be imputed; and, if we add to this the consideration, that in the cases reported to be cured, we can rarely obtain that evidence, without which reasoning must be conjectural, and assertion groundless, it must be admitted, that unless the pathological process of genuine consumption can be more exactly distinguished during life, it is impossible to determine whether all the cases in which remedies have been exhibited with benefit, have been actually examples of consumptive disease. It may indeed be urged, that these difficulties or fallacies are to be ascribed to the imperfect semeiography hitherto adopted, and to deficiency of pathognomonic characters; and that we ought therefore at once to renounce all inquiry or examination of evidence, where the elements are so little tangible. Though this argument is so rational, that we shall subsequently give it more attention, and attempt to show its practical importance, consistency requires us to adhere, in the mean time, to that system of semeiography on which practitioners and experimental physicians have relied, in forming an opinion on the state of the lungs, and in estimating the effects of remedies, and of modes of treatment.

* *A Treatise on Diseases of the Chest, &c.* by R. T. H. Laennec, p. 42, 303, translated by Dr. Forbes.

It appears, therefore, that the assemblage of morbid phenomena, at present called *symptoms of consumption* by physicians, may arise from pathological causes, or processes, which ought to be distinguished from each other. Though these causes, or pathological processes, will be so much more numerous, according as the diseases compared are examined in the early or more advanced stages of their progress, we shall, however, confine our attention to those morbid states only which are liable to be confounded, and in which the symptoms, according to the ordinary practical doctrines, suggest the use of those measures which are conceived to possess some antiphthisical habit or sanative power. Proceeding on these principles, we find, that the external signs by which physicians are in the habit of recognizing the presence of consumption, may depend, 1st, on chronic inflammation, or other morbid conditions of the bronchial membrane; 2^d, on ulceration, with chronic inflammation of the larynx or trachea; 3^d, on chronic inflammation of the pleura; 4th, on inflammation with suppuration of the lung; 5th, on tubercular destruction of this organ.

I. The pulmonary mucous membrane is liable to inflammation in various degrees of severity, from the slightest cold or catarrhal affection, to the most violent peripneumony; and as the action is rapid and transitory, or slow and more lasting, it is said to be acute, subacute, or chronic. In this condition, dissections inform us, that a space more or less considerable of this membrane becomes redder than natural; and what was previously uniformly grey and smooth, appears to be traversed by minute vessels, or dotted with numerous reddish asteroid points. At the same time, the membrane becomes softened, villous or rough, pulpy,* and thicker than natural, or more swelled, so that the calibre of the smaller bronchial tubes, and the capacity of the pulmonary vesicles, is considerably diminished. These appearances, which may be said to constitute the anatomical cha-

* Hastings, 281.

acters of simple inflammation of the bronchial membrane, (bronchitis,) are common both to the acute and chronic forms of the disease. In the latter, however, it appears that they take place much more slowly than in the former, and the membrane, though reddened and villous, is rarely so much thickened, or rather swelled, as in the acute disease.

A uniform effect of this action in the pulmonary mucous membrane is, to augment the quantity, and change the quality of that fluid, which it secretes in the natural state ; and there is reason to believe, that every derangement, however moderate, of this secretion, depends on some form or degree of inflammation. The extent to which these changes take place, varies according to the severity and duration of the disease ; and this gives rise to considerable variety in the characters of the fluids discharged by expectoration. At the commencement of chronic, or even acute inflammation of the bronchial membrane, the bluish, semitransparent, and particled mucus of health is mingled with mucilaginous, transparent, and greyish fluid, not unlike white of egg, which is secreted in considerable quantity. As the morbid action goes on, however, it becomes thicker, more viscid and opaque, and generally sinks in water ; and, when fully established, this thickened mucus is either mingled with, or entirely converted into, a yellowish, opaque fluid, which cannot be distinguished from purulent matter, and which is generally more or less streaked with blood. This is the ordinary change of the secretion of the bronchial membrane when inflamed ; but variations are often met with. The matter expectorated may be merely thickened mucus, very opaque, and condensed ; or it may be mucus much streaked and mingled with blood.

It might be supposed that these changes could not be effected without breach of continuity, or ulceration of the membrane ; yet it is established on the most unquestionable evidence, not only that purulent fluid may be expectorated, but that all the concomitant signs of consumption may occur without other change of the condition of the lungs, than the

process of inflammation of the mucous membrane. In the course of his practice at the Hospital of Vienna, De Haen ascertained, on examining the bodies of persons who, after copious expectoration of puriform or purulent matter, had died with the usual symptoms of consumption, that no ulcerated breach could be detected, either in the lungs or bronchial membrane.* The same fact was established by Dr. Willan, in many cases of this disease which fell under his observation in the spring of the years 1796 and 1798;† and by Dr. Badham, who has shown, in his short Treatise on Bronchial Inflammation, that this disease gives rise to all the phenomena of consumption, and may eventually disappear.‡ More recently, Dr. George Pearson, who has examined attentively the chemical characters of the various kinds of expectorated matter, has shown, that an opaque, white, or yellow fluid, equally consistent, but more tenacious than cream, is discharged from the pulmonary membrane, without breach of surface, in two different conditions of the organ. Firstly, in the instance of a woman, who, in the third week of an attack of measles, expectorated more than a pint of greenish cream-like matter every twenty-four hours,—after death, which took place in a few days, careful examination of the lungs disclosed neither ulceration of the bronchial membrane, nor tubercles or abscesses of the pulmonic tissue. Secondly, in the case of a man who expectorated a fluid considered purulent by all who saw it, and believed to

* *Rationis Medendi, I. XI.* p. 60.

† “The disorder had not, therefore, in any case, produced ulceration of the lungs; and the expectorated fluid, so alarming in its appearance, was perhaps only composed of a puriform secretion and an increased discharge of mucus; circumstances usual in other membranous inflammations. It is worthy of remark, that by such a state of the inner surface of the lungs, the constitution is affected nearly in the same manner as when they are ulcerated; on which account, the diagnosis of pulmonary consumption must often be rendered obscure and difficult.”—*Willan's Reports, 1796, 20th March.*

‡ *Observations on the Inflammatory Affections of the Mucous Membrane of the Bronchiæ, by Charles Badham, M. D., &c. &c.* pp. 48. 76.

proceed from ulceration or tubercular softening, it was found, that the only morbid change was condensation or consolidation of the lungs, with watery effusion in the cavity of the pleuræ.* In cases similar to the first of these, which are now known to be exceedingly common, the puriform or cream-like fluid is secreted by the membrane in a state of chronic inflammation; in those of the second sort, which, as will appear, are equally common, the membrane is either inflamed, or becomes the seat of an augmented action, which depends on any cause that resists the free transmission of blood, and the healthy motions of the lungs. According to the further observations and researches of this physician, which have every appearance of being accurate, the fluid secreted from the inflamed pulmonary membrane, may present almost every variety of colour and consistence, from thickened mucus to distinct purulent fluid, or these two substances may be combined in every proportion. The general correctness of this conclusion has been confirmed by the cases of Dr. Hastings, and by the daily observation of many examples of purulent expectoration.

The frequency with which a greater or less proportion of blood is mingled with the matter excreted in chronic bronchial inflammation, requires that some notice be bestowed on this phenomenon. The discharge of blood by expectoration, has been too often regarded as a disease, when it ought to have been considered as a mere symptom. In one condition only of the lung, can it be with any reason considered as an individual disease; and even here it might be shown to be the result of a preliminary process, consisting of local vascular congestion. In all other circumstances, however, it is uniformly the effect, and consequently the symptom, of a morbid process. We allude to those cases in which blood is expectorated in small quantity, almost pure and fluid, or mingled with more or less muco-purulent matter. This is

* Transactions of the Royal Society, 1809, Part II. p. 315-321. On the Qualities of Expectorated Matter, by George Pearson, M. D.

the *hæmoptoe* described by nosological writers, and justly distinguished from *haemoptysis*. It occurs so frequently in chronic bronchial inflammation, that it may be almost regarded as a symptom of the disease ; and instances occur in which the only symptom is the occasional exscretion of blood, or bloody mucus, for a long time, sometimes with intervals of health for years.

In these circumstances, the blood, whether pure or mingled with mucous or purulent fluid, is discharged from the bronchial membrane without destruction of tissue or rupture of vessels, or, in the language of some physiologists, is exhaled. "I have often opened," says Bichat, "persons who have died during hemorrhage, and have examined the bronchial, gastric, intestinal, and uterine surfaces, yet have not perceived the slightest trace of erosion, notwithstanding the precaution of washing them with care, allowing them to macerate, and afterwards submitting them to examination by means of a lens."*—"The hemorrhages also," he remarks, "which are occasioned by violence, and produced by rupture, viz. from the nose and ears in injuries of the head, from the bowels and urethra in other injuries, have phenomena and duration completely different from those which take place from a mucous surface." Many other facts show, that blood, even in considerable quantity, may be discharged by expectoration, without rupture or ulceration of the pulmonary membrane. It is to be regarded, then, as a symptom of inflammation, appearing when this is present, and vanishing when it subsides.

The duration of this disease is various, according to circumstances of constitution, treatment, and external agents in general. It is seldom shorter than three or four weeks, and it may extend to sixty days, or three or four months, with considerable change in the violence of its action and effects on the constitution. In general, however, before this time it manifests a tendency either to subside, to affect the

* *Anat. Generale*, Vol. I. p. 563—565.

submucous tissue of the lung, or it may terminate the existence of the patient, by the violence of its constitutional effects. That it may terminate spontaneously, especially if favoured by the co-operation of mild weather, and shelter from exciting causes, we have the united testimony of many authors ; but more especially of Dr. Badham, Willan, Broussais, and Hastings ; and recovery is more certainly effected under the use of those means which are known to control inflammation.

“ In several patients,” says Dr. Willan, “ most of them females, a hard sounding cough was, after some days, followed by an expectoration of thick fetid greenish matter, intermixed with a large quantity of clear viscid mucus. Along with this, other symptoms appeared, which seemed to indicate the appearance of *phthisis pulmonalis*, as diarrhoea, hectic fever, night sweats, and emaciation. The complaint was much aggravated during the frost, which began in the last week of February, and terminated on the 11th March. It was not at all alleviated by blood-letting employed at an early period of the cough. The most effectual remedies appeared to be cupping between the shoulders, blisters applied to the sternum, and *scrobiculus cordis*, pediluvium, antimonials occasionally, nitre and demulcent drinks. Under this treatment, added to a light cooling diet, all the above patients were restored to health before the 20th March.”* And afterwards, in his Report for the spring quarter of 1798, he states, that “ many persons who had catarrhal coughs in March, were farther affected with spitting of blood, thick viscid expectoration, pains within the chest, hectic fever and diarrhoea, interchanging with night sweats, but recovered notwithstanding in the month of April.” This observation, he afterwards remarks, enforces one practical point of some consequence, “ that in coughs succeeding to catarrhal fevers, we should not be too hasty in pronouncing a case to be decidedly phthisical ; nor, whenever

* Reports, 20th March, 1796.

the lungs are inflamed, discontinue, so long as a possibility of benefit remains, the proper regimen and the means of resolution."

This disease, which constitutes what has been called *catarrhal* or *pituitous consumption*, has too frequently been distinguished by practical authors, into as many varieties as the exciting causes which are concerned in its formation; but as this subdivision is at once irrational and of no practical use, it ought to be abandoned. Whether the disease succeeds to acute inflammation, or catarrh, or measles, or hemoptysis, or irritation, mechanical or chemical, or the deranged condition of dyspepsia or liver disease, or the morbid susceptibility of fever, or accompanies other morbid actions, as spitting of blood and peripneumony, it is uniformly to be regarded as the same pathological process,—as inflammation more or less violent of the pulmonary mucous membrane, and as effecting the usual derangement in the functions of this membrane. That form of it which depends on disorder of the chylopoietic viscera, described by Mr. Abernethy and Dr. Wilson Philip, though occasioned by a peculiar remote cause, is pathologically the same morbid action as the chronic inflammation which succeeds to measles or pneumonic disease.

The testimony of De Haen, Stoll, and Frank, show that it forms a great proportion of consumptive cases in Germany; in Russia it appears to be frequent; it is noticed by Dr. Lionel Chalmers as particularly prevalent in Carolina, and by Dr. Rush in North America in general; and there is reason to believe, that the rapid cases which occur among seamen in the Mediterranean and West Indies, consist originally of this disease. It is indeed by far the most frequent of pulmonary complaints, and it may be considered as certain, that, in the greater number of consumptive cases, chronic inflammation of the bronchial membrane is either the principal, or the only pathological action. It is indeed true, that it generally occasions inflammation and induration of the pulmonic tissue, before it terminates fatally; and it

might be argued, that according to the evidence of morbid dissections, the disease should be regarded as chronic peripneumony ; but as we shall show that this is the result of the previous inflammation of the mucous membrane, we conceive it most proper to refer the disease to this latter head. There is reason to believe, that the greater number of cases of reputed consumption occurring in large towns, and marked as such in the bills of mortality, are examples of chronic catarrh, with or without pulmonary consolidation ; for the generality of tubercular disease, though very great, has been much overrated. The only existing evidence for the prevalence of true tubercular consumption, depends on the most questionable testimony ; and as we cannot justly admit, without actual dissection, the presence of tubercles in every case said to die of consumption, it is obvious that the means of ascertaining the point should be more positive. Judging from what we see in this city, we should believe that a small proportion indeed of cases with consumptive symptoms, are to be referred to tubercular disorder ; and we find the testimony of Dr. Willan as to London, leading to a similar conclusion.

“ In my own list,” says the physician, “ the article of pulmonary consumption includes cases of ulcerations of the lungs, and alterations of their texture, in consequence of pneumonic inflammation, and repeated catarrhs. I apprehend not more than *a fourth part* of the whole number of cases put down could be referred to proper phthisis, arising from the *slow and successive suppurations of tubercles in strumous constitutions.*” Reports, 1797. April.

The proofs which we have here adduced, may be sufficient to establish the two leading facts in this inquiry ; 1. That chronic inflammation, without ulceration of the bronchial membrane, will give rise to the constitutional symptoms of consumption ; and 2, That this disease, in favourable circumstances, is susceptible of cure spontaneous, or effected by art ; and it is therefore superfluous to occupy more time in establishing what must be already obvious.

We cannot, however, quit this part of our subject, without remarking, that this view affords a satisfactory explanation of the apparent efficacy not only of reputed remedies, but of recoveries from consumption, which have been reported to have occurred. Various cases of this kind are recorded in the writings of Darwin, Beddoes, Kinglake, and Magennis, and we think perusal of these cases will show, that the greater number, we may almost say the whole, of those which recovered, were examples of chronic bronchial inflammation. The five successful cases which are particularly described by Dr. Magennis, are evidently to be referred to this head ;* for the symptoms, at least as far as a judgment can be formed, and the effects of the remedy, indicate an inflammatory action only. The instances of cure, related by Dr. Beddoes, took place under considerable variety of treatment. Three were effected by stabling with cows ; two by regulated temperature ; and two by combination of foxglove and antiphlogistic remedies. The case of Dr. Briggs is evidently an example of pulmonary apoplexy, with local inflammation of the bronchial membrane. Of four other cases published subsequently by this author, the symptoms and mode of formation indicate nothing like tubercular destruction, and we think there can be little doubt that they were distinct examples of chronic inflammation of the bronchial membrane. This opinion is founded on the following circumstances ; 1. The cases to which we allude, commenced, not with the usual latent and imperceptible disorder which is known to attend tubercular disorganization, but with more or less of the ordinary symptoms of cold, and a greater or less degree of the rapidity which is known to mark the accession of inflammatory disorders ; 2. Their symptoms were of the sort that may be referred to mere inflammation, unaccompanied with tubercular deposition ; 3. In the process of recovery no similarity can be traced to that which marks the recovery of distinct and unequivocal

* *Medical and Physical Journal*, Vol. XXV.

cases of tuberculated lung. We know, from the observations of Laennec and some others, that in a few cases the tubercular matter may be eliminated, and recovery may take place. But in the course of this process, which is tedious, none of the symptoms give way so rapidly as they did in the cases to which we allude ; and after convalescence, the patients were always more or less liable to be influenced by any slight affection of the chest.*

We know not if we may venture to offer the same explanation of cures of consumptive symptoms treated on a different plan, and terminating favourably ; and it is not unlikely, that we may cause many to think, that in our eagerness to explain, consistently with pathological principles, the success of the most opposite methods, we may destroy in some measure the strength of the evidence which we have already adduced. We allude particularly to those cases which are said to recover under what is termed the tonic treatment. To pass over the few examples recorded by May, the following may be regarded as the most imposing evidence. In the year 1801, Charles Pears, a surgeon in the neighbourhood of London, published reports of forty-nine cases termed pulmonary consumption, (*phthisis pulmonalis*,) treated according to what he terms the tonic plan ; that is, with a liberal allowance of animal food, wine, &c. and with medicines supposed to possess a strengthening or stimulating power.† In his prescriptions, which are given at full length, gentian, either in infusion or powder, is a uniform ingredient, and valerian, nitre, spirits of nitrous ether, or opium, are frequent adjuncts. Bleeding he never employed, and he deprecates its use in the strongest terms ; but a blister appears occasionally in his prescriptions, and ointment of tartrate of antimony was employed once.‡ Un-

* *On Diseases of the Chest*, p. 31.

† *Cases of Phthisis Pulmonalis successfully treated upon the Tonic Plan, with Introductory Observations. By Charles Pears, F.M.S., &c. Lond. 1801.*

‡ *The 18th.*

der this treatment, twenty-one out of forty-nine cases were permanently restored (cured); eighteen refused to comply with treatment, which is very extraordinary; and only ten died. Of these last, the details of three only are given; in two of which the fatal event is ascribed to the intemperate and habitual use of spirits, and in the third, to exposure to cold during treatment. Not much unlike, is a species of treatment, which has been long pursued by a celebrated extra-professional gentleman, and of which notice is now occasionally taken in the Journals.* Of these cases, the particulars are not well known; but until more decided proof is adduced, that they depended on tubercular destruction, we think it is but fair to refer them to that form of disordered action which depends on bronchial inflammation.

It is not always, however, that this malady terminates so favourably, and that it is attended with local injury so trifling. In its mildest form, we have already seen that the pulmonary membrane is merely inflamed, and that one of the effects of this is to augment the quantity and change the quality of its mucous secretion. This process is not unfrequently attended with more serious morbid changes; and, in many cases, dissection has shown minute ulcers to be formed in the membrane. It does not appear that the process which terminates in ulceration of this membrane has been completely investigated, or that the mechanism of the formation of ulcers has been satisfactorily described. They are certainly not necessary to chronic inflammation; but it has been found, that they are most common in the persons of those whose occupation exposes them to inhalation of irritating mechanical powders. Such, for example, dissection has shown to be the state of the bronchial membrane in stone-cutters,† glass-grinders, needle-grinders,‡ and the leather-dressers of Worcester.§ In such circumstances, in

* On the Tonic Treatment of Phthisis. By Dr. John Hume, in the Quarterly Journal of Foreign Medicine, &c. No. 16. January, 1823.

† Coschwitz de Spadone Hippocratis, in Haller Disputat. P. II. 47.

‡ Johnstone of Worcester.

§ Hastings, p. 281.

which the presence of mechanical irritating substances excites inflammation, succeeded by suppuration, and more or less destruction of tissue, it may be supposed that the morbid action occasioned in this manner would subside, as soon as, by its own means, it had removed the cause of its action. The cases however of this kind which have been recorded, show, that though recovery occasionally takes place in the early stage, it is almost never effected after distinct suppuration has occurred.

We have less certain information on the nature of a form of ulcer considerably different, which may occur in the bronchial membrane. We allude to that in which the membrane becomes the seat of numerous minute eminences, which, as they pass through the several stages of inflammation, suppuration, and, finally, ulceration, may be regarded as pustules of the pulmonary mucous membrane. This disease is not unlike what is oftentimes observed to occur, in the intestinal mucous membrane, where it occasions first a modification of diarrhoea, and afterwards assumes the form of dysentery. It may be regarded as inflammation taking place simultaneously or successively, in many minute points of the membrane, and passing, after a certain time, into the suppurative stage. The ulcers thus formed are in general round or oval, rarely irregular, with their margin slightly raised, and surrounded with a red circle (areola), more or less distinct. The matter expectorated consists of purulent fluid, streaked with blood, and mingled with a considerable portion of dense mucus.

In the cases of this disease from which our information is derived, death had taken place after the usual symptoms of consumption had subsisted for some time; and as it is uncertain whether, in cases which terminated in recovery, but the subjects of which had finally been destroyed by other maladies, these minute ulcers of the bronchial membrane had previously existed, our evidence as to the sanability of this sort of injury is incomplete and unsatisfactory. Medical men have in general concluded, that, when patients with

hectic fever and puriform expectoration have recovered, the bronchial membrane has been simply inflamed chronically, without ulceration or breach in the pulmonary tissue; and we find Dr. Willan actually reasoning in this manner in a passage already quoted. That the pulmonary tissue had not been injured in such cases, is probable enough; but it is clear that this is merely matter of opinion, and that even the absence of ulceration of the bronchial membrane is not proved; and the circumstances to which we have already alluded show, that evidence of this conclusion is still wanting. We do not regard it as a pathological impossibility, for ulcers of the kind which we have described to undergo the healing process; and it appears equally probable, that a slight loss of substance thus produced, may be repaired under favourable circumstances, as in the case of an individual ulcer of any part of the bronchial or tracheal membrane. Are there recorded any cases, in which the usual symptoms of bronchial inflammation had, after some time, terminated in health, and in which, after death by another disease, many years after, the pulmonary mucous membrane had exhibited unequivocal traces of cicatrized pustular ulcers, similar to those which are observed in the intestinal mucous membrane of persons who have recovered from dysentery?

We trust we have shown to what extent the position is true, that chronic catarrh is not necessarily a fatal disease; and that, whether it consists merely in inflammation, with augmented and vitiated secretion of mucus, or in ulceration of the membrane, it still may admit of being controlled by art, or may, in favourable circumstances, subside spontaneously. These conclusions are in perfect accordance with strict pathological observation. Yet it is notorious, that though several cases of chronic catarrh, or catarrhal consumption, actually recover, a great proportion terminate fatally, notwithstanding every thing that skill can suggest, or that art can perform. We therefore proceed to inquire into the circumstances which render this malady so intractable,

and so generally fatal; and it will be found that they are to be referred to a greater or less degree of that change in the pulmonic structure, upon which, dissection informs us, depends the disease termed, by practical writers, chronic peripneumony.

When chronic catarrh has subsisted long, the inflammatory action extends from the mucous membrane to the submucous cellular tissue, which unites the bronchial tubes and vesicles to the serous or transparent membrane of the lungs. This is the proper *cellular*, not vesicular, tissue of the organ. At first, this action produces merely redness, with vascular congestion of the submucous tissue, or what the older pathologists termed infarction of the lungs. But, as the morbid state of the blood-vessels continues or increases, lymph, or lymphous fluid, is effused into the interstices of this tissue; the part loses its natural softness and elasticity; and as the bronchial tubes and vesicles are more or less compressed by this newly deposited substance, the lung loses its sponginess and lightness, which depended on the complete permeability of its vesicles. It is found, that a lung in which this chronic inflammation of the submucous tissue has existed for some time, presents the following phenomena. 1st, On opening the chest and admitting the air, though there are no adhesions, the lung does not collapse at all, or does so very slightly. 2^d, The pulmonic substance, which surrounds a portion of chronically inflamed membrane, becomes harder and denser than before, and does not float completely in water. If the induration is considerable or extensive, it sinks entirely. 3^d, It loses its elasticity and compressibility, or cannot be inflated, and no longer crepitates, as in the healthy state, but resembles a portion of solid flesh.

This change of the pulmonic tissue was early observed by pathological anatomists; but we find the first distinct examples of it in the writings of Morgagni* and Maximilian

* *De Sedibus et Causis, Epist. XX. 3. 5. 22. 24. 20. 26. 36. 42. 47. 49. XXI. 26. 11. 27.*

Stoll,* the last of whom recognised it in many individuals who had laboured under chronic inflammation of the lungs. It has been ascertained, by the observation of Dr. Baillie, that this change is caused by accumulation of blood in the minute vessels of the part, and effusion, or extravasation, as he terms it, of coagulable lymph in the cells of the submucous tissue.† This deposition obviously produces two effects on the structure in which it takes place. It unites mutually the individual fibres or threads of which the pulmonic cellular tissue consists, and, by its presence, diminishes the space originally occupied by the compressible and elastic substance of the organ. The authorities to whom we have now referred, notice this change as if it were peculiar to inflammation of the lung, acute or chronic ; and, strictly speaking, it forms the pathological character of this disease. It is not, however, confined to it; for it has been ascertained by Broussais, and more lately by Hastings, that it is a common consequence or accompaniment of chronic bronchial inflammation. Since the appearance of the writings of these authors, M. Laennec has described, under the head of peripneumony, three different degrees of it, and has distinguished them, 1st, according as the lung is red or violet, but crepitates and discharges, when cut, a frothy blood-coloured fluid ; 2^d, as the portion of lung is destitute of crepitation, and is red and granulated interiorly, without discharge of fluid when cut, unless squeezed ; 3^d, as it is consistent and granular, its section a pale yellow, or straw-colour, and as it discharges a considerable quantity of opaque, yellowish, viscid fluid, from many points of its cut surface.

It is the first of these states that is more generally observed to occur in the submucous pulmonic tissue, in the course of catarrhal consumption ; for though the admission of air to the cavity of the pleura does not cause the lung to collapse, and on incision it appears firmer and more solid

* *Rationis Medendi, Pars I.* 184. 202. *II.* 370. *III.* 364.

† *Morbid Anatomy*, p. 60.

than natural, it nevertheless crepitates slightly, and even partially floats in water. In some examples, however, of chronic catarrh, the second degree of induration has been known to take place, and considerable portions of lung have been found, not only red, indurated, and consolidated, but granular, uncrepitating, and completely sinking in water. There is reason to believe that this extension of inflammation to the submucous pulmonic tissue, is the chief circumstance which determines the fatality and insanability of the disease. We have already seen, that chronic catarrh is not of itself necessarily fatal; and recoveries frequently take place under circumstances favourable to the abatement or disappearance of the inflammation, when merely membranous; but when it extends to the subjacent, and affects the proper pulmonic tissue, it appears to be fixed in character, and obstinate against the usual remedies. The evidence may be reduced, we believe, to the following points.

1. In cases of increased and vitiated secretion of mucous, or muco-purulent fluid from the bronchial membrane, with the ordinary constitutional effects, the symptoms have gradually subsided, and the individuals have been restored. It is to be regretted that on this point we have only negative evidence that the pulmonic tissue was not affected; for though the individuals may have presented the usual signs of peripneumony, the diagnostic mark of permeability of lung, or respirability ascertained by stethoscopic examination, has not been given. There is, however, reason to conclude, from the absence of the rational signs, as they are named, viz. quick breathing, orthopnoea, tightness, lividness of countenance, that this tissue was not, in the instances alluded to, seriously and permanently affected.

2. In cases of chronic catarrh, with the usual constitutional symptoms, which have resisted medical treatment, and gone on to fatal termination, it has been uniformly found that more or less chronic inflammation had existed in the submucous or pulmonic tissue. The most complete collection of cases with which we are acquainted, are those re-

corded by Broussais in the first volume of his work on the Chronic Inflammations. Of fifteen fatal cases of chronic catarrh, recorded by this author, only two presented the lungs entirely free from induration. In the other thirteen, an extent, more or less considerable, of one or both lobes, was hardened and solidified, and, when divided, presented a greater or less degree of this change. The truth of the same fact is satisfactorily demonstrated in the results of the fatal cases detailed by Dr. Hastings in his Essay on Bronchial Inflammation. In the 1st, 2d, 5th, and 8th cases, the chronic membranous inflammation was combined with much consolidation of the lungs.

3. The next point requisite to illustrate the sanability of chronic catarrh when thus aggravated, consists in the possibility of recovery after the submucous tissue has been indurated, or at least of existence and continuance of vital processes, while induration more or less extensive has taken place. The consideration of this subject leads to some curious and not uninteresting consequences. We believe it will not require much argument to prove, that the existence of induration during life, has, from a variety of causes, never been sufficiently attended to; nor has any attempt to discover what characteristic symptoms it produces been made till very recently. This may appear singular to those who know that this change is neither more nor less than what ought to give rise to the symptoms ascribed by nosological authors to the disease termed peripneumony; for it might be concluded that these symptoms ought to take place in every case of induration, and consequently to indicate the pathological change. It is however certain, that in the most correctly detailed observations of the disease, such as those given by Broussais and Hastings, peripneumonic symptoms were not observable during life; and yet after death, induration of portions of lung more or less considerable were discovered. In the case given by Dr. Pearson already alluded to, the disease gave rise to distinct consumptive symptoms; and we think we have seen others exactly

similar. We must therefore conclude, that the characters hitherto given by nosological authors, are insufficient to determine the presence or absence of the disease ; and recourse ought therefore to be had to marks more decisive and less liable to ambiguity than these appear to be. In this difficulty there is reason to believe that stethoscopic examination furnishes the only accurate test by which the permeability or respirability of the lung can be ascertained during life ; and unless the respiratory murmur is thus shown to be either much impaired or completely destroyed, it is impossible to conclude in any given case, whether the morbid effusion had disappeared or not.

We have now shown, by undoubted proofs, that chronic catarrh, when it has subsided for some time, is almost uniformly attended by induration of the pulmonic tissue, and more or less change in the structure necessary to the process of breathing. The next point of inquiry, is to examine the pathological changes which such consolidated structure undergoes, the effects to which it gives rise, and the question whether there is any possibility of removing it by remedies.

The induration of the pulmonic tissue, which is the result of chronic inflammation, might be expected, from what is observed in analogous circumstances, to terminate in suppurative or ulcerative destruction ; and several authors appear disposed to consider this as a natural and frequent occurrence.* We are compelled, however, to say, that the instances of pulmonic disease hitherto correctly recorded, give little or no countenance to this opinion ; and suppurative destruction of indurated lung appears to be one of the rarest occurrences almost that can happen. The reason of this will appear very soon. The course which it pursues, we are inclined, from the collection of many cases, to consider as the following. After one portion of lung has be-

* On the Pathology of Consumptive Diseases. By John Abercrombie, M.D. Edin. Med. and Surg. Journal, vol. xviii. p. 22.

come traversed by numerous red vessels, and is beginning to be hardened by effusion of lymph, it exercises an influence on the contiguous set of vessels, and produces more or less obstruction to the free transmission of blood through the part. The contiguous parts undergo the same change. This effect is augmented by slow and successive, but very certain steps, until a considerable portion of lung, which, in the natural state, is traversed by few and colourless capillaries, is at length crowded with a multitude of red vessels, in which blood is detained, and thus interrupts the healthy circulation of the organ. While lymph continues to be separated from the blood in these vessels, an analogous process takes place in the minute vessels of the general circulating system. Serous fluid begins to be effused in the cavity of the pleura and peritoneum, and into the cellular system in general, and the patient is cut off with the symptoms of general dropsy. So uniform is this mode of termination, that Broussais informs us he was almost invariably led to infer the existence of chronic catarrh and pulmonary induration, from observing œdematosus swelling of the face or extremities, or even a slight tendency to this symptom.*

“ Those patients who had bivouacked in the mountains exposed to winds and snow, recovered with great difficulty. Several adynamic and ataxic fevers underwent no inconvenience ; but all the catarrhs, whether simple or complicated, returned with new severity, and several died at the hospital of Bruck in which I was acting. I was unable to collect the exact history of all these catarrhs ; but having opened the bodies, I satisfied myself that those who coughed for 1½ month or 2 months, who had several alternations of fever and apyrexia, and who died rapidly with slight œdema, had the lungs in that state of induration, which is termed *carnification*, or, by comparison with the liver, *hepatisation*.” p. 79. Vol. I.

In another part of his work, when speaking of cases in

* P. 90. Phlegmasies Chroniques.

which the tendency to œdematosus swelling led him to employ diuretic remedies, he uses the following remarkable language.

“ Some of these patients having died, I hastened to examine their bodies, to discover the nature of that organism which expressed itself so indistinctly, and was astonished, after five or six autopsies, to find invariably hepatised lungs. With some, the violence of the cough had prepared me for this ; but there were nevertheless several in whom I saw the effects of the disease, before I suspected its existence. I then observed, with all possible attention, those patients whose actual condition seemed to threaten a similar termination ; and I discovered ten or twelve, who, after the usual course, did not, with return of appetite, recover strength, had straw-coloured complexion, and in whom rotundity of figure not referable to corpulence, indicated a disposition to dropsy. With some of these, though by no means generally, the spleen appeared tumefied ; but the most important symptom was a *dry night-cough*, of which only a few complained. To determine its real existence, I resolved to visit them at one or two in the morning, and then found that the patient, who in the morning was cheerful, and asserted that he scarcely coughed at all, had *slight heat, frequent pulse, the cheeks a little red, and a dry, sometimes very violent cough*. As I observed the progress of these chronic coughs, I now was convinced of the analogy between these patients, and those whose death had shown their lungs to be hepatised. All at once the face appeared infiltrated, especially at the eyelids ; the hands and feet became œdematosus ; rattling breathing commenced, and the patient died in agony. Others became dropsical, and in a few days acquired an enormous bulk. All of them yielded to the force of the disease, and examination showed the principal lesion to be indurated lung and inflamed pleura.” pp. 105, 106. Vol. I.

The next point in this inquiry to which our attention is directed, is the question, whether hardening of pulmonary

tissue is susceptible of removal, or whether, if this be not the case, it is possible for the individual to exist.

It appears that a small portion of lung may continue indurated, without necessarily destroying the individual; but in this case observation shows, that the process which gives rise to induration, must be suspended or completely checked. If this process still continue, the induration extends, and at length occupies a great part, or the whole of one lung; and, in such circumstances, the usual consequences of induration rarely fail to appear.

The possibility of the removal of induration appears to depend very much on the particular degree or form in which this change has occurred. If it be merely in the first degree, as described by Laennec, we have decided proofs that it not unfrequently disappears, and that the tissue of the lung is restored. In this degree of induration, the change consists in the enlargement of the colourless vessels of the pulmonic or submucous tissue with blood, in the formation of many new vessels, and in the tardy motion or slow circulation of this fluid through these capillaries. It is not difficult to see, from the usual phenomena of morbid actions, that there is nothing in this which may not be restored to its original condition. Under favourable circumstances, the blood may gradually retire from this set of capillaries, the vessels may contract, those that have been developed may disappear, and the entire structure of the part may be restored to its original and sound state. That this is possible, must be inferred from examples of peripneumony, in which the symptoms, as known from analogous cases, indicated the incipient hardening, and which have eventually recovered. That it is possible, must be inferred from the fact, that the stethoscope has, in some cases of catarrhal or peripneumonic disease, indicated engorgement, or induration in the first degree, and has subsequently indicated the gradual return of permeability of lung, and respirability with the disappearance of the symptoms. That it has actually taken place, may be inferred, we conceive, from various

cases which have lately fallen under the observation of competent judges. On this head we refer to the 16th and 17th cases recorded by Broussais.*

When hardening of lung in the second degree has taken place, resolution or restoration implies a more complex process,—the disappearance not only of the enlarged and newly developed vessels, but the absorption of effused lymph. The first of these processes, we have already shown, is possible; but whether the second actually occurs, may be difficult to prove. That it is not impossible, may be inferred from the fact, that lymph which is effused in the formation of abscess, is gradually removed after suppuration, and seems to be absorbed; and also from what is observed to happen in recent effusions of lymph, which while fluid appear capable of being absorbed. But we cannot assert, that lymph which is deposited in the interstices of the submucous pulmonic tissue, is absorbed with equal rapidity and facility. Broussais appears inclined to think that it may, and quotes cases in which, though the symptoms led him to think this effusion had occurred, restoration was effected. The authority of Laennec, so far as relates to the mere change of structure, is still more positive. For he not only concludes, from many cases, that death takes place from exhaustion or general weakness, rather than in consequence of mere organic lesion, but states his opinion, that restoration may be effected without disorganization of the pulmonic tissue, even in the third stage of the morbid process, when purulent deposition has taken place.† He has not, however, examined the means by which this process of restoration is effected, or attempted to trace the progress from the obstructed and engorged, to the healthy and free state of the pulmonary tissue. There is reason to believe, that, though possible, it is but a rare occurrence; and it is so much more difficult to render it a matter of certainty, that those cases only are

* *Phlegmasies Chroniques*, Tom. i. pp. 160 and 162.

† *On Diseases of the Chest, &c.* p. 50, Forbes's edition.

examined, in which the lungs are most completely disorganized ; and in those in which restoration is effected, we have no means but the stethoscope to determine the point. From instances, however, of this form of pulmonary disease, which have fallen either under our own observation or that of our friends, it appears, that a very copious discharge of purulent matter, with bloody streaks, takes place from the bronchial membrane for several days, sometimes weeks, while the effused fluids are removed from the pulmonic tissue, which becomes permeable ; and if the general strength of the individual be not destroyed by the constitutional symptoms, recovery takes place at an earlier or later period.

II. The process of ulceration occasionally takes place higher up in the course of the same membrane, and gives rise, as was first distinctly proved by Morgagni, to a modification termed laryngeal or tracheal consumption. There is no doubt that this ulceration is the result of previous inflammation ; but the tissue originally inflamed is not always the same. It appears, in general, to commence first in the mucous membrane ; and various examples are recorded, in which this process had been developed under the influence of different exciting causes. One very generally blamed for ulceration of the laryngeal mucous membrane, is the poison of syphilis ; and the second volume of the Annals of Thomann contains a case by Christin, in which, though the individual denied any syphilitic taint, cicatrices of former ulcers were found on the corona glandis.* In many instances of this description, we should be inclined to ascribe it to the ordinary operation of cold and moisture, and more especially if the patient has been well dosed with mercury. Of five cases of laryngeal consumption which have fallen under our observation, we have been able to trace two with certainty, and one with probability, to this cause ; and we presume, from the mode of commencement and the concomitant symptoms, that the inflammation of the mucous and

* *Annales Instituti Medico-Clinici Wirceburgensis redegit et Observationibus illustravit J. N. Thomann, M. & C. D., &c. Volumen ii. p. 285.*

submucous tissue of the laryngeal membrane, acute, subacute, or chronic, was the beginning of that process which merged in ulceration with the usual constitutional signs. In other instances, it appears to have originated in disease of some of the subjacent tissues ; and examples have occurred in which ossification of the laryngeal cartilages appears to have been the first event in the process. It is to be observed, however, that it must not be concluded from every case of laryngeal ulceration, in which the cartilages are found ossified and carious, that the ulcerative process was occasioned by previous disease in the ossified cartilages. This may happen to be the correct relation or order of events ; but it may be merely a coincidence, or, in some circumstances, a consequence of disease of the soft parts. Ulceration of the larynx may be the consequence of acute inflammation, which has terminated without suffocation, or of chronic inflammation, occasioned by any of the usual exciting causes. In such circumstances, purulent matter is found in the ventricles of the larynx, the mucous membrane is detached by irregular ulceration, and some thickening, ascribed to strumous action, is found in the contiguous and subjacent tissues.* Ulceration of the tracheal membrane is too frequently the result of chronic inflammation, which is here remarked to occur in strumous habits, or at least in persons very liable to have catarrhal and chronic affections of the mucous membranes in general ; and as it is often combined with ulceration of the œsophagus, it has been presumed to have commenced in this tube, and thence extended to the trachea.†

The termination of these cases is generally unfavourable ; yet an ulcer of the larynx or trachea appears to be as much under the influence of medical management, as in any other part of the body. That there is nothing in the nature of the tissues of which the larynx and trachea are composed, which should prevent the process of restoration, we have every

* Baillie, 91.

† Baillie, 98.

reason to conclude, not only from the facility with which wounds of these tubes, whether accidental or operative, are healed, but also from the instance of tracheal consumption mentioned by Borelli, and from the remarkable case related by Dr. Lettsom, in which the foil of a button, which had dropped into the windpipe, gave rise to all the symptoms of consumption, which disappeared as soon as the foreign body was spit up.* It is impossible to conceive that such a substance should continue for four months in the windpipe, without producing ulceration, and equally impossible to suppose that recovery could take place unless the ulceration had been cicatrized; and we are forced to conclude, that there must be in the constitution of the individual, or in the treatment, some circumstances which exercise a great influence in preventing or promoting this favourable result. In a case related by Heller, in Thomann's Annals, recovery took place under the use of sulphuret of antimony and hyoscyamus, with a restrained diet, composed chiefly of Iceland moss, and afterwards with inunction over the throat of an ointment containing calomel and opium.† Many cases however show, that the great local action or irritation is a principal agent in preventing the sanative process; for when this is removed by any means whatever, the symptoms have subsided, and health has been restored. Such appears to have been the case in the instance recorded by Morgagni,—at least if it be admitted that the symptoms were occasioned by an ulcer of the tracheal membrane.‡

Ulceration of the trachea occasions death either by its effects on the general health, which is perhaps the most common mode,—or by the ulcerative process establishing a communication between its cavity and that of the œsophagus,—and thus producing suffocation. Ulceration of the larynx,

* Memoirs of the Life and Writings of the late John-Coakley Lettsom, M. D. &c., with a Selection from his Correspondence. By Thomas Joseph Pettigrew. Vol. iii. p. 82. Art. XIII.

† Annales Instituti Medico-Clinici, &c. vol. i. p. 171.

‡ De Sedibus et Causis Epist. xxii. 27. 31.

besides these two modes of causing death, may do so in a third, which we rather think is its most frequent mode of termination. This is by its concomitant inflammation affecting the investing membrane of the arytenoid cartilages, or the substance of these bodies themselves. The result is remarkable. As these cartilages and their investing membrane form the narrow slit or chink termed the *glottis*, and as a very slight degree of swelling obliterates the opening, suffocation may suddenly take place, and be followed by death. This is indeed to be regarded as a secondary form of inflammation of the larynx, so suddenly and generally fatal. In all the examples of laryngeal consumption which we have seen terminate fatally, and which we have had opportunity of examining after death, we have found the arytenoid membrane swelled and thickened by effusion of fluid beneath it, and the aperture of the glottis much or completely obliterated. In some of these cases it is worthy of remark, that points of the laryngeal membrane, which had been in a state of ulceration, had undergone a process of repair, and had been cicatrized. In other parts, a sort of fungous granulating substance had risen from the place occupied by ulcers. In the cases recorded in the Medico-Clinical Annals of Wirceburg, to which we have already alluded, two terminated fatally, the third recovered. In those which terminated fatally, the mucous membrane covering the epiglottis, and the arytenoid cartilages of one side, were removed by ulceration, which had extended also over the velum, uvula, and part of the pharynx. In one, the membrane between the epiglottis and arytenoid cartilage was destroyed by ulceration. In the other it was ulcerated; the margins of the glottis were ulcerated and warty, and the upper thyro-arytenoid ligament of the left side was completely destroyed. In a case recorded in the Memoirs of the London Medical Society, of four months duration, the epiglottis and upper part of the trachea was ulcerated, and the hyoid bone was necrosed, exfoliating, and carious.*

* Memoirs of London Medical Society, vol. iv.

III. It has been the subject of much controversy among medical persons, whether the pleura can be inflamed without the same process extending to the lung; and whether pleurisy can exist without peripneumony. The pathological collections of Haller and Morgagni have been supposed, by many authors, to prove the contrary, and to establish the inference,* that, though a portion of lung may be inflamed without affecting the pleura, it is impossible for the pleura ever to be affected without a similar state in the contiguous portion of lung. To the nosologist who feels himself obliged to create a disease from symptoms, this distinction is perhaps of some importance; but to the pathological physician, who fixes his observation on the changes incident to the organic tissues, and connects them with the exterior signs to which they give rise, it is of no other use than merely as a fact of which he must be aware, and the value of which he will appreciate in studying the successive phenomena of any morbid process. Since, however, it may be considered as established, that the pleura is often inflamed without affecting the pulmonic substance, the name *pleurisy* must be restricted, according to the distinctions of modern pathology, to inflammation of the pleura only. This disease may exist in every variety from the most acute, which runs its course in five or six days, to the most chronic, which continues for weeks and months—in some instances more than a year. In the first case, the rapidity of its progress, and the violence of its effects, rarely allow it to give rise to phthisical symptoms; but when the disease, either by becoming chronic, or by being originally so, has lasted for weeks in the same or similar tenor, the symptoms, which had at first been those of symptomatic fever, are gradually converted into hectic, with its usual concomitants of wasting and loss of strength. It is therefore to the chronic forms of pleurisy that our present inquiries pertain.

The serous membrane of the lungs, when inflamed chronic-

*Haller, Opusc. Path. xiii. xiv. Morgagni, Ep. xxx. Pringle, 142.

cally, presents nearly the same anatomical characters as it does in the acute state. The membrane becomes of a red punctuated or dotted appearance, with minute points of a deeper red than in the acute disease, but of the same irregular figure, the spaces between of natural colour; but the membrane is also traversed by numerous vessels red or dark coloured, but quite distinct, and not colourless as in the natural state. Many pathological observers, and among others Dr. Baillie, have described the pleura as thickened when in a state of inflammation, and have considered this change so usual, as to be deemed a necessary consequence of the inflammatory process. This effect has been denied by M. Laennec, who informs us that he never could perceive the membrane distinctly thickened; and asserts, that the phenomenon described by these authors as *thickening*, is either an extensive congeries of miliary tubercles on its free or adherent surface,—or a cartilaginous incrustation on the parts covered by the membrane,—or, lastly, false membranes more or less dense, adhering closely to its free surface.

The red-punctuated appearance may be regarded as the first or incipient part of the inflammatory action occurring in the pleura. It extends through its thickness, and continues as long as the disease lasts. But it never continues long without being attended with the formation and effusion of new matter from the free surface of the membrane. The first and most usual of these is the gelatinous or rather albuminous substance, denominated by J. Hunter coagulating lymph. When effused, this substance is always semifluid, viscid, of a yellowish colour, and not unlike imperfectly coagulated animal jelly. In a short time it is penetrated with vessels, shrinks or diminishes in size, becomes firmer, and acquires the vital property of exhalation. It then constitutes what has been named false membrane; and if, as frequently takes place, it is united to the corresponding part of the opposite pleura, it is termed *membrane of adhesion*, or simply *adhesion* (*concretio, concrementum*.)

The second species of matter formed by the inflamed

pleura, is an opaque fluid of gray, or cream-like aspect, but not uniform in consistence. If allowed to stand, it separates into a thin watery fluid, which resembles green whey or milk much diluted with water, more accurately than any other thing; and a thinner matter which remains at the bottom of the vessel, and which, on examination, is found to consist of different kinds of substance, the proportions of which vary according to the duration and degree of disease. The first of the constituents of this thick substance appears to be merely the same kind of fluid as that which was decanted from it, and, when properly separated, appears to differ in nothing unless in being mixed with the other matters. The second ingredient which we shall notice, is a thicker semi-fluid substance of minute globules or grains, which appear to float, or be mechanically suspended in the more fluid portion. This appears to be a modification of purulent matter, and may be regarded as the purulent fluid properly secreted by the inflamed pleura. The third ingredient of this fluid consists of shreds or patches of curdy or albuminous matter, which is evidently of the same nature as that which forms the exudation of the membranous adhesions.

In acute pleurisy, besides the red appearance of the membrane, lymph is effused, and more rarely the sero-purulent fluid which we have described. But in the chronic disease, whether it has existed so from the beginning, or has supervened on an attack of acute inflammation, this fluid continues to be effused for a considerable time, and its presence constitutes the distinguishing pathological character of the disease. It is to be regarded as the immediate effect of the process going on in the pleura, and it will continue to be effused as long as this process continues. While the effusion of these morbid fluids from the pleura goes on, the increasing quantity breaks down whatever membranous adhesions are not sufficiently strong, and separates the lung from the inner surface of the chest, with which it had been previously in immediate contact. It thus compresses the organ more and more daily, until, when it has filled almost the

whole cavity of the pleura, the lung is reduced to so small a size, that, on examination, it would seem to have been completely destroyed. After death, however, when the matter is removed, it will be found forced up towards the mediastinum and spine, and reduced to a very small compass indeed. In consequence of this compressed or squeezed condition, the lung becomes much smaller, its vessels are emptied, or at least the blood is prevented from filling them and moving freely through them ; its bronchial tubes are crushed together, so as to prevent the admission of air beyond the first divisions ; and the whole organ is rendered unfit for the purposes of respiration. If a lung which has been long subjected to this pressure be examined, it will be found not to crepitate, or at least indistinctly, to float imperfectly, and to be incapable of inflation by its bronchia, or complete injection by its vessels. This is the condition of lung so often mentioned by Broussais in his cases, under the name of *atrophied lung*,—19, 20, 24, 25, 27, 28, 30.

In some instances of this author, the lung is also said to be reddened and hardened, or hepatised. It is easy to see that it must be impossible for a substance so light and elastic as lung, to be forced into the small space mentioned in such cases, without becoming much denser, heavier, and more solid. But we conceive this state ought to be entirely distinguished from that which we have already described, when enumerating the pathological changes incident to the organ in chronic catarrh. That was shown to consist in an increased quantity of matter in the same space, without diminution of volume ; in other words, by the deposition of new substance in the interstices of the old. The change of which we speak at present, consists in approximating more closely the particles of the old matter, or in forcing it to occupy a smaller space.

In the course of this process, various events may take place, which, as they are more or less intimately connected with chronic pleurisy, may be noticed shortly.

1st, Suppurative destruction may take place in one point

of the pulmonary pleura, and the corresponding part of the lung, by means of which one or more bronchial tubes are laid open, and a considerable quantity of purulent or sero-purulent fluid is discharged in certain positions by coughing. This fluid always comes up in considerable quantity, sometimes in a continuous stream, as is discharged by vomiting; but the sensations of the patient, and the distinct coughing, show that it comes through the windpipe. The time and the quantity of this discharge, will depend much on the direction of the communication between the bronchial tubes and pleura, and on the manner in which it is made. In some instances which have fallen under our observation, the capricious irregularity of its appearance was explained after death by the appearance of a sort of valvular apparatus, consisting of coagulable lymph, placed very near the pleural end of the fistula. We have reason to believe, that this is an event not uncommon in the course of chronic pleurisy; for we have seen two or three examples of it in the course of some years.*

2d, Suppurative destruction may take place in one or more points of the costal pleura, and a quantity of the sero-purulent fluid, more or less considerable, is expelled through openings between the ribs. Previous to this, in general, the effect of the effused fluid on the side becomes manifest. It becomes enlarged; the intercostal spaces become broader, and rise to a level with the ribs, or even above them. At the same time, the integuments become œdematos, and the cutaneous veins are much enlarged. This is a less frequent occurrence than the former; but several examples have been recorded by physicians, at no remote period. Dr. Hunter's collection contained a preparation, in which matter had been discharged through several openings in the intercostal spaces; and we may refer for examples to the *Miscellan. Curios. sive Ephemer. Decur. III. An. V. Obs. 49. Memoirs of Med. Society, vol. iii. p. 127.*

* See Morgagni, Epist. xx. 6, where a good case with dissection is given.

3d, We have already mentioned the effect which the effused fluid produces on the size of the lung, and shown that it forcibly compresses this organ toward the spine and mediastinum. We have now to remark, that when chronic pleurisy occurs in the left side of the chest, as the quantity of sero-purulent fluid increases, it not only compresses the lung, but frequently displaces the heart so much, that the pulsations of this organ are not felt at its usual situation on the left side, but first close to the sternum, and afterwards on the right side entirely. We have met with two cases in which this change of situation had taken place, and in both it was occasioned by the great quantity of purulent fluid filling the sac of the pleura. When it occurs, it is liable to be mistaken for serious disease of the heart; but examination shows, that the change of pulsation is caused merely by forcible displacement, without change of structure of the organ.*

The knowledge of circumstances of this kind is not only necessary in showing the true nature of this malady, but is also not without its use in inquiring into the organic process by which the disease and its effects are removed. This inquiry resolves itself into three points; *1st*, Whether the chronic inflammation of the pleura has been, or may be checked, under a course of management; *2d*, Whether the fluids which it has formed can be removed from the pleura by the powers inherent in the living tissues; *3d*, Whether the lung which has been compressed can be restored to its

* Since the above was written, another instance of the facility with which the effect thus mentioned may be ascribed to disease of the heart, is placed before us. In the volume of the Transactions of the Medico-Chirurgical Society of this place, just published, the concluding case of Dr. Abercrombie's valuable paper on the Pathology of the Heart, is a very distinct example of chronic pleurisy, though given as displacement of the heart. This organ was undoubtedly displaced; but the change of position was a mere effect of the sero-purulent effusion, which again was the effect of the original disease,—inflammation of the pleura. *Trans. Medico-Ch.* pp. 66 and 67. See also an interesting case in Memoirs of Medical Society, vol. v. p. 215.

original state, and be again fit for the purposes of respiration.

That the process of chronic inflammation may be checked or suspended in the pleura, appears to be quite as possible as that it should be so in other tissues and organs of the human body. But there are circumstances here which operate in a manner totally different from what is observed in other situations. *1st*, When fluid has been once effused, it appears to operate like a foreign substance, and aggravate, in some instances, the original disease. If it be considerable, it breaks down the layers of lymph which otherwise connect the pulmonary to the costal pleura, and prevent the further extension of the disease ; and by compressing the lung, it renders the chance of removing the disease much less likely. *2d*, The removal of the effused fluid by absorption, is a very precarious and uncertain event ; and though it has been known to occur, it has not been ascertained what are the circumstances which favour this termination. Some recent observations would appear to show, that the same agents which check local inflammation, are the most likely to be beneficial. Notwithstanding these obstacles it appears, that chronic inflammation of this membrane does in a few instances cease ; its effects disappear, and the individual recovers a considerable degree of health, in some instances is completely restored. The cases hitherto recorded show, that one of three events is requisite to this termination. Either, on the cessation of the inflammatory action, the fluid effused is gradually absorbed, while the lung expands, and the lymph with which its membrane is covered, forms points of adhesion with the pleura ; or a communication between the pleura and bronchial tubes takes place, by which the effused fluid is discharged by expectoration ; or an opening takes place in the intercostal spaces, and allows it to escape in that manner. If the disease terminates in the first of these modes, a very peculiar change generally takes place in the chest, which has been best described by M. Laennec under the name of Contracted Chest. As we had occasion

to speak of this formerly, when examining the pathological researches of this author, we satisfy ourselves with this notice of it, and referring our reader to that article,* and the work of M. Laennec. We have only to remark on this point, that one of Dr. Beddoes's consumptive cases is evidently an instance of chronic pleurisy, in which this sanative process had partially taken place,† and the explanation of which is certainly due to the researches of M. Laennec.‡

When chronic pleurisy terminates by a fistulous communication between the pleura and bronchial membrane, a degree of pneuma-thorax generally takes place, unless the lung expands with the same rapidity with which the sero-purulent fluid is discharged from the cavity. In most cases which eventually recover, membranous adhesions seem to prevent this from being so considerable as to compress the lung; and, indeed, the equality of temperature in the air which escapes, and in that which is contained in the pulmonary vesicles, generally operates as a resisting power. If the pneuma-thorax be considerable, it may retard, or ultimately prevent recovery. In some instances, the expanding power of the lung itself seems to force out the sero-purulent fluid, without admitting any air to the cavity of the chest. This is a form of consumptive disease by no means uncommon.

We may here notice another variety of this mode of termination. Not only may a fistulous opening take place between the bronchial membrane and pleura, so as to admit air into the cavity of the latter membrane, but the cellular tissue of some point of the walls of the chest may be laid open by ulceration, and, air escaping into it, may form an emphysematous swelling of more or less of the surface, with

* Med. and Surg. Journal, vol. xviii. p. 462.

† Observations on the Nature and Cure of Calculus, Sea-Scurvy, Consumption, &c. By Thomas Beddoes, M.D. 1793. p. 146; and a Letter to Erasmus Darwin, M.D. on a New Method of Treating Pulmonary Consumption, &c. By Thomas Beddoes, M.D. pp. 23 and 24.

‡ Laennec, by Dr. Forbes, p. 159. Sect. IV.

or without discharge of purulent matter. This termination is well illustrated by a case of pleurisy terminating in emphysema and consumption, described by Treyer in the 1st volume of Thomann's Annals,* and by a remarkable case, in which there was a fistulous communication, openings through the parietes of the chest, puma-thorax, and emphysema, described by Dr. Duncan, in the 1st volume of the Transactions of the Medico-Chirurgical Society of Edinburgh.†

If it were possible to form a decided opinion from reports of cases already recorded, we should say that termination of chronic pleurisy, by spontaneous opening through the intercostal spaces, was by far the most common, and perhaps the most favourable. Its event, however, is precarious; and the great variety in this respect will perhaps prove to depend on the condition of the lung, and the degree in which the constitution is affected. When the lung is sound, and without tubercular or other destruction, if none of the ribs be carious, a favourable result is more probable than in the contrary circumstances. It is easy to estimate the degree of danger depending on other causes; and we have only to refer to the following examples, in which the disease was almost invariably regarded as consumption which had been cured. *Miscellan. Curios. sive Ephemerid. Decur. III. An. V. Obs. 49.* said to be consumption cured by nature. *Warner's Cases in Trans. Roy. Soc. vol. XLVII. p. 407, XLVIII. p. 270,* successful. *Vol. LI. p. 194,* fatal. *Memoirs of Med. Society, vol. V. p. 215,* fistulous opening and incision, recovered. *Vol. V. p. 309,* incision, fatal.

We conclude this part of our subject with two observations; 1st, The history of chronic pleurisy, and of its pathological characters, shows that physicians have overlooked its importance and true nature, and have more generally attended to its effects than to its intimate and proper character. In the writings of authors, both practical and patholo-

* P. 176.

† P. 455.

gical, it is designated only by one of its effects,—the effusion of sero-purulent or sanguineo-purulent fluid (empyema, some cases of hydrothorax); and we rather think that physicians have too often allowed the primary pathological cause, inflammation of the pleura, to be completely forgotten in the result or consequence of its action. Empyema and hydrothorax are indeed not so much diseases, as the effects of one and the same morbid cause; and it is equally inconsistent with rational pathology, or the sound observation on which it depends, to create as many distinct maladies as these variations in the action of that cause in which the disease truly consists. 2. There is reason to conclude, that several of the cases recorded as pulmonary abscesses expectorated and cured, were examples of chronic pleurisy terminated by the formation of pulmonary fistula. We shall see that Laennec denies the ordinary occurrence of pulmonary abscess; and if it be so rare as he contends it is, or even as we ourselves allow it to be, the cases recorded admit of satisfactory explanation, in no other way than by referring them to this cause. Such may have been the case related by Dr. Wright in the Transactions of the Royal Society, generally quoted as an instance of pulmonary abscess; and we believe that the reading and experience of many of our professional friends could easily furnish them with similar examples.

IV. The formation of a distinct abscess of the lungs as a consequence of inflammation, was at one time generally admitted among pathologists. Laennec, however, who describes suppuration of the lungs under his third degree of pulmonary induration, maintains that it is exceedingly rare, and gives it as the result of his observation, that small abscesses are found in the pulmonic tissue not above four or five times, and an extensive one not above once, in many hundred cases. All the reported cases of pulmonary abscess, or suppuration of lung, as a consequence of inflammation, he regards as excavations or *vomicæ*, formed by the softening of extensive tubercular masses. It is possible that

suppuration, as a consequence of inflammation of the lungs, may be rare, for two reasons; 1st, Because the disease may prove fatal by suffocation, before it has attained the complete suppurative stage; 2d, Because, under the influence of remedies, it may be so much modified as to prevent the formation of purulent matter in a distinct sac or cavity. But we do not regard it as so rare as M. Laennec appears to represent it. Instances are recorded by Morgagni, in which a considerable portion of the pulmonic tissue was converted into a purulent abscess, with the contiguous structure apparently healthy,—or indurated as a consequence of previous inflammation.* Dr. Baillie expresses himself with some uncertainty; for his language may be interpreted so as to apply either to tubercular vomicæ, or to pulmonary abscesses; though it is evident, and more especially from what he says in his engravings, that he believed in its ordinary occurrence. Is the preparation which he has delineated in his 5th Engraving, p. 37, to be regarded as an instance of it? Is the case recorded by M. Foubert, in the Memoirs of the Academy of Surgery,† or that by Dr. Wright in the Transactions of the Royal Society,‡ or that related by Heller in the Annals of Thomann,§ to be regarded as examples of pulmonary abscess? That by Dr. Wright might have been an instance of chronic pleurisy with pulmonary fistula; and there is scarcely a case which might not be explained without supposing a true pulmonary abscess. In what light are we to view the impostumes described by Dr. Bisset, in his correspondence to Dr. Lettsom?|| There is a defect of evidence on this subject; and we require several good cases, with the appearances after death, in order to ascertain the frequency or the general occurrence of abscess as a consequence of pneumonic inflammation.

Though we have considered induration or consolidation

* Epist. LXI. 2. XXVIII. 12.

† Tome i. of 4to, iii. of 12mo.

‡ Vol. xxiii. p. 1378.

§ Vol. i. pp. 215 and 224.

|| Memoirs of Life and Writings of Dr. Lettsom, Vol. iii. p. 315.

of the lungs as a consequence of long continued bronchial inflammation, we must here observe, that it may occur primarily as an effect of chronic peripneumony. Without dwelling longer on the pathological properties of this change, we have merely to remark, that various facts prove that this chronic inflammation gives rise to phthisical symptoms so well marked, that it is impossible to distinguish them by the usual means from those occasioned by tubercular destruction. The most satisfactory instance is that described by Dr. G. Pearson, to which we have already alluded.

The pulmonic tissue appears to be subject to a particular form of inflammation terminating in formation of matter, but occurring in many minute points. We have met with two or three examples only, in which, without expecting any morbid appearance, we found the pleura sound, the lungs interspersed at considerable distances with numerous minute abscesses, but the intermediate tissue quite healthy. As it occurred that these were softened tubercles, the whole organ was carefully examined, yet without finding any thing but minute spherical abscesses of various sizes, and with the surrounding texture natural. The peculiarity, therefore, of this species of suppuration, is its not being preceded, so far as could be ascertained, by tubercles, the pulmonic tissue neither inflamed nor indurated, and the simultaneous formation of many purulent points.

Is this to be regarded as a pustular inflammation of the lung? Will it explain the appearance of vomicæ in the lungs of persons who were never suspected to have tubercles? Is it a disease peculiar to strumous habits? This appears to be the form of organic change which Dr. Baillie mentions in the following terms.

“ I have sometimes seen a number of small abscesses interspersed through the lungs, each of which was not larger than a pea. The pus there is rather thicker than what arises from common inflammation, and resembles scrofulous pus. It is probable that these abscesses have been produced by a number of small scattered tubercles

taking on the process of suppuration. The lungs immediately surrounding these abscesses are often of a perfectly healthy structure, none of the cells being closed up by adhesions."*

Notwithstanding the opinion of this pathologist, that these were the result of scattered tubercles, it may be urged, that had this been the case, some unsuppurated tubercles might have been expected to be found, or the surrounding tissue might have been supposed to be indurated after such a slow and tedious process as the tubercular softening. Nothing of this kind, however, was remarked in the few cases which we have seen; nor does the description of Dr. B. himself warrant any such conclusion. We know nothing of the possibility of these abscesses being either absorbed or discharged by expectoration, and the pulmonic tissue being restored. The state of the lungs would lead us to imagine, that recovery might be very probable. The whole subject requires more attentive and accurate investigation.

V. The pathological characters of pulmonary tubercles have so often on late occasions been brought under notice, that detailed inquiry is quite superfluous. While, therefore, we refer to our articles on the works of Mr. Lloyd, M. Laennec, and Dr. Barron, our observations in this place may be confined to a very narrow compass. The points of inquiry most important to be ascertained are, 1. Whether the presence or formation of tubercles gives rise to any changes in the functions of the living body, which may serve as pathognomonic signs of their existence; 2. Whether after formation they may continue latent or quiescent, that is, without seeming to undergo any changes tending to destroy the lung. 3. Whether medicine possesses any means of controlling this action; and, 4th, Whether the process of tubercular disorganization can be arrested or subdued.

It is most unfortunate, that the very matter on which all the other subjects depend, is involved in the utmost ambi-

* *Morbid Anatomy*, p. 72.

guity ; for it is well known, that in morbid dissections we daily meet with tubercles, which no symptom had led to be suspected, and even on the strictest interrogation from friends, or those who were in the habit of seeing the patient daily, it is impossible to obtain any certain proof that he was out of health. On the other hand, we often meet with cases in which phthisical symptoms are developed suddenly, and without previous indisposition, and continue till the fatal event, after which both tubercles and vomicæ are found in the lungs. These facts, which are well authenticated, and various examples of which are scattered through the works of pathologists, lead to one of two conclusions ; 1. That tubercles may exist in the human lung without either occasioning local inconvenience, or affecting the general health ; or, 2. That their formation is very rapid, and accompanied in many instances with the usual phenomena of inflammation. It is for this reason that many pathologists believe that tubercles may continue long without producing local uneasiness, or, in other words, in a latent or inactive state ; for it is difficult to imagine, that bodies like tubercles could be formed in the short space which elapses between the first appearance of illness, and the complete formation of phthisical symptoms.

The ambiguity and obscurity indeed in which this subject is involved, renders it quite impossible to fix on a single point, from which we might proceed with confidence and certainty in the investigation ; and we have therefore no means of knowing whether tubercles are already formed in any given case, or whether, when formed, they may be absorbed. We are unwilling to encourage the opinion, that the veins or lymphatics are unable to remove by absorption, such bodies as dissections show tubercles to be ; but the records of medicine afford no unequivocal proof that a tubercle or tubercles ever were absorbed. In those cases in which the symptoms led to the belief that tubercles were forming, and had disappeared, it may be said, that the same symptoms might be occasioned by several varieties of dis-

ordered health, and, at all events, by chronic peripneumony or pleurisy. These considerations, which are founded, we may say, on strict matter of fact, show the exact bounds to which medical knowledge extends on the three first questions which we stated above; and the physician is compelled, in the present state of information, to abandon all speculation or reasoning on the tractability of the disease, or the powers of art in its early period, before it has assumed an active and unequivocal aspect.

It is therefore to that stage of their progress, which the symptoms have led physicians to denominate *active*, that the attention of the pathological inquirer must be directed with a view to ascertain the tendency of these bodies. And we find there is almost as much difficulty in determining the precise point at which quiescence ceases and action begins, as there is in ascertaining the presence of tubercles in any given case. It was long supposed that the appearance of purulent matter in the expectoration was the proof of tubercular softening, or suppuration. We have already seen, however, that purulent matter may be discharged without coming from tubercular vomicæ; and we have now to mention, that more careful observation, united to the aid afforded by morbid anatomy, has shown, 1st, That the process of tubercular softening is accompanied with considerable variety of expectoration; 2d, That it may be far advanced without being suspected by the symptoms; and 3d, That there are few cases indeed in which it is not complicated with chronic bronchial inflammation, and in which, consequently, it is not attended with copious mucous or muco-purulent discharge, totally independent of that which comes from the tubercular matter.

According to the observations of Dr. G. Pearson, whose authority we have already quoted, it appears, that tubercular deposition in the lungs may be attended with a variety of chronic inflammation of the mucous membrane, more or less local, in which the opaque ropy matter, which forms the third sort of his expectorated fluids, is secreted very copi-

ously. This symptomatic action, which is popularly known under the name of *winter-cough*, may return and subside every winter for years, without coming to a fatal termination; and though tubercles are the remote cause of the expectoration, they are not its immediate source. This is to be understood of tubercular action in all ages, but chiefly after the period of youth.* The pulmonary consumption of young persons, depending on the presence of tubercles, is also attended with similar expectoration proceeding from the same cause,—a secondary local inflammation occasioned by the obstruction which the tubercles cause in the pulmonary circulation. This fluid has been often mistaken for the matter of softened tubercles; but dissection has shown this to be erroneous; for in the lungs of such subjects, though tubercles were numerous, and sometimes beginning to undergo the usual changes, none were broken, nor could any communication be traced between them and the bronchial membrane.

“The substance of which I am now speaking,” says Dr. Pearson (puriform matter, the 4th sort,) “is most frequently excreted in the last stages of pulmonary phthisis for many weeks successively. It is taken for granted, that this matter is from a breach of surface or ulceration; but on examination after death, such a state was not found in many instances, under my observation, although the lungs were as usual full of tubercles and vomicæ.”†

These facts, which are well authenticated, prove that, in many subjects at least, tubercular deposition, when it has attained a certain point in its progress, occasions a true bronchial inflammation, which may continue till the fatal event; and that the matter expectorated does not proceed from the tubercles, but from the inflamed bronchial membrane.

That enlargement, and the ulterior changes of tubercular

* *Transactions of the Royal Society*, 1809, 1810.

† *Ibid.* 1809, p. 520.

destruction, may be much advanced without producing unequivocal symptoms, is so well established by the observations of Laennec, that it is unnecessary to dwell longer on it.

That tubercular disease of the lungs is complicated, generally in the early stage with chronic catarrh, and always in its latter stage with this and inflammation of the contiguous pulmonic tissue,—follows directly from what has been now stated; and these statements have been confirmed by the observations of Laennec. It is important, therefore, for the practical physician to remark, that every case of tubercular phthisis consists of at least two, sometimes of three simultaneous morbid processes; 1st, The proper tubercular action, which may either be in the stage of growth or increase, or in that of softening or destruction; 2d, Of a degree of chronic inflammation of the pulmonary mucous membrane; and, 3d, Of local inflammation of the pulmonic tissue, generally chronic, and tending to produce consolidation of the lung. Of these, the two latter only are in some degree under the control of medicine; for it is distinctly proved by the observations of Bayle and Laennec, that the process of tubercular softening has never yet been amenable to art, and that, when once commenced, it continues until the whole is discharged. The researches of the last of these writers, however, have shown, contrary to what had been generally supposed, that at this period recovery may take place in two modes,—by the cavity becoming either invested by a new membrane, or obliterated by a cicatrix more or less complete, consisting of cellular, fibrous, or cartilaginous substance.* We have already noticed this mode of termination in our account of M. Laennec's work; and it is unnecessary to dwell longer on it here, than merely to say,—that the mode in which it is accomplished, is very different from that which has been hitherto supposed to indicate the cure of consumption, and which we have shown belongs properly to recoveries from chronic catarrh,—and does not afford that

* Laennec by Forbes, p. 28.

strong evidence of the sanability of genuine consumption which some pathologists are resolved to draw from it. It is obvious that the chance of a patient recovering in this mode, will depend, *1st*, on the time occupied in the discharge of the tubercular matter, and, *2dly*, on the number of tubercles in the lung ready to undergo the same change. If the health and strength of the individual be much reduced, during a long and tedious process of tubercular suppuration, or if many tubercles have to undergo the same changes, it is physiologically impossible for recovery to take place. When the state of the lungs in subjects affected with tubercular deposition is remembered, it will not require much argument to prove, that the proportion of recoveries even must be small indeed; for the majority of instances consists of cases in which not one or two, but many tubercles are simultaneously undergoing the same changes. Even the case of wound and cicatrix of the lungs, which has been supposed to encourage the hopes of curing consumption, does not here admit of application; for, while the inflammation and suppuration succeeding a sword-thrust, or the introduction of a pistol-bullet, are limited with more or less accuracy to one region of a single lung, or even of a single lobe,—cases of genuine pulmonary consumption generally depend on the presence of many tubercles, or tubercular vomicæ in the same lung, or even in both; and it is not the effect of one, but of the whole, that contributes to the fatal termination.

A single observation of importance in a practical view must not be omitted. To what extent should the efforts of the physician be carried, when he has no means of acting directly on the morbid process? Should he attempt to moderate or remove the local inflammation or congestion which depends on it? Or, is he to leave the whole to the constitutional powers of the individual? We are inclined to think that these limitations form the basis of the treatment of consumption; that the chief object of the physician is to moderate, as much as may be, the bronchial inflammation, or

pneumonic congestion; but that, in doing so, all means should be avoided which are likely to impair the general strength. Two evils, indeed, are to be avoided, neither to carry the antiphlogistic means of subduing the secondary inflammation so far as to impair the powers of the system; nor to administer those stimulating and irritating remedies which, whatever effect they have on the sensible strength of the individual, or even on the tubercular action, always aggravate the secondary inflammation.

The view which we have here taken furnishes several practical conclusions, which we trust it will not be unseasonable to notice briefly at present. It shows, in the first place, that the semeiography given by practical and nosological authors is imperfect, and affords the practitioner no certain means of distinguishing the precise nature of that process, which is going on in the lungs of his patient. It demonstrates, among other things, the inutility of the much laboured diagnostic of purulent expectoration, and that the physician can no longer trust to this as a means of ascertaining the probable state of his patient's lungs. An immediate and natural result of this is, that he may either be destitute of any certain means of applying the remedies suited to the particular variety of morbid action, or by supposing it beyond the reach of art, when it is still under control, may indulge in the hopeless indifference of inactivity. It is obvious, therefore, that it is requisite to look for diagnostic means more positive and particular in the information which they afford; and in which confidence may be reposed, both in ascertaining the effects of remedies, and the kind of curative means which are most appropriate. In this difficulty, it is unfortunate that not even the stethoscope can give us satisfactory information of the presence of tubercles previous to excavation; but, by negative evidence of their absence, and positive evidence, in many instances, of other morbid conditions of the organ, information much more certain can be obtained than by any other mode. When all the usual signs of consumption exist, and concur to perplex

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the physician, and prevent him from ascertaining whether these symptoms are occasioned by chronic catarrh, or tubercular softening, or from distinguishing between chronic pleurisy and the early stage of tubercles, he may rely on the evidence of the stethoscope with the greatest confidence. In other instances, as in fistulous opening into the pleura, and actual tubercular excavations, the necessity of discarding our ancient semeiography, and employing the less ambiguous aid of the stethoscope, is still more obvious. It is unnecessary to prolong these observations; but we trust they have not been completely useless, if they shall be the means of directing the attention of even a few of our readers to the importance of distinguishing, in practice, those pulmonary disorders which, though indicated by nearly similar symptoms, arise from different morbid states, and require varieties of treatment.*

ART. V. *Operation performed and recommended for the cure of Imperforate Anus: two Cases detailed, illustrative of the method and success of it.* By JOHN RHEA BARTON, M. D. Surgeon of the Pennsylvania Hospital, and of the Philadelphia Alms-House Infirmary.

THE nature of the subjoined cases is such, as will be found ranked under the head of Imperforate Anus; but it is only one of the various forms of this malformation. Though not to the unfortunate subject a cause of immediate death, the deformity is one of a peculiarly delicate kind; and one that, should life be spared, it would only be to entail misery upon the victim to it.

The manner in which such deformity would operate upon

* *Edin. Med. and Phys. Journal, for Jan. 1824.*

the mind, should the person thus affected arrive at the age of reflection, will at once suggest itself, when it is stated, that there is not in these cases the slightest trace of an anus *in situ naturali*; but that the rectum terminates in the vagina; and that this is the channel through which all the contents of the bowels escape!

The operation I have to recommend, is for the purpose of establishing a new route from the rectum, and cutting off the communication with the vagina—thereby placing these two cavities in a condition capable of carrying on their respective functions independent of each other, as they should do in a correct and natural state of the parts.

CASE 1. The subject of this imperfection was a female infant, already six weeks old. Upon examining the part, not the slightest trace of an anus was to be seen; but I soon observed the fæces, with much suffering to the patient, simultaneously voided with the urine, *per vaginam*. A minute inspection of this part, led to the discovery of a fistulous aperture through the recto-vaginal septum, and communicating with some part of the intestine.—The mother evinced that degree of distress at the unhappy deformity of her offspring, and commiseration for its sufferings that might be expected from a tender parent, and was extremely solicitous for its relief. Accordingly the operation, as is usually directed in cases of imperforate anus, was performed; namely, by making an incision through the parts where the anus should be, &c. &c. The instrument passed into the rectum, and upon withdrawing it, fæces escaped freely. The part was then plugged up with patent lint dipped in sweet oil, to prevent re-union. Not many days had elapsed before the wound began to granulate and rapidly cicatrize; to prevent therefore its closure, a piece of bougie was introduced, and brought out of the vagina through the original opening into it. This tent caused much irritation and suffering; but as it was deemed advisable, its use was persisted in for several weeks. The mother, who in the mean time had left the city with her infant, finding it productive of no good effect, re-

moved it ; and the part soon closing up, rendered the operation abortive.

When the infant had attained the age of nine months, the father called upon me, and announced the increased sufferings of his child, owing to the still existing defect, and greater retention of faeces, from their becoming more consistent as the patient grew older ; stating also, that without the effect of aperient medicines, there would be an evacuation not oftener than once in four or five days, and sometimes prolonged to a period threatening death.

In taking the case further into consideration, the following mode of operating suggested itself to me, as one promising success, viz.—To take for my guide into the rectum the opening communicating with the vagina ; to introduce into it a director, and with a bistoury to lay open the vagina and integuments as far back as the part where the anus should be ; there to remove a small portion of the integuments, if necessary, and to dissect down until I came to the determination of the gut, and to open it freely. By this operation, the anterior boundary of the incision would be the fistulous opening in the vagina ; and posteriorly, it would terminate where the natural outlet ought to be found. The subsequent treatment to consist in endeavours to promote granulations and the cicatrizing of the original opening, and so much of the anterior portion of incision as rendered the vagina incomplete ; in the mean time, to keep the remainder open until this shall have been effected. This plan was pursued, and I had the pleasure to succeed most perfectly in all my views. The integuments around the incision retracted, and thereby obviating the necessity of removing them. The original aperture closed up, with that part of the incision connected with it. The vagina became complete, and a route direct from the rectum was established, having no communication whatever with the vagina.

In this case there was no *sphincter ani* muscle ; in consequence of which, I had nearly been deterred from the operation, by the opinion of some of my medical friends, who

maintained that, even though I should succeed in establishing a direct outlet from the rectum, the patient would, throughout life, labour under the lamentable misfortune of being unable to control the evacuations, for want of a sphincter muscle. Reflecting, however, upon cases of fistula in ano, where this muscle had been divided by the bistoury, I recollect that the patients even there were enabled to exercise a limited degree of restraint over the part, by the action of the general muscular coat of the rectum, or, as it is sometimes described, the internal sphincter muscle. Under a belief, therefore, that this part of the structure, from continued use, would in time assume the functions of a proper sphincter, I operated with confidence of success, and was not disappointed. The little patient never found any difficulty from this source.

CASE 2. By DR. SATCHELL, House Surgeon of the Pennsylvania Hospital.—Jane Dimmick, aged about fifteen months, was admitted into the Pennsylvania Hospital on the 6th of February, 1823, during Dr. Parrish's tour of duty. She was afflicted with imperforate anus, the fæces being passed per vaginam, through a small opening situated about half an inch from the os externum. The depression in which the anus should have existed was quite smooth, and exhibited no mark whatever of the proper structure. The child passed her fæces with considerable pain, at intervals of ten days or two weeks, which were fluid, or of a very soft consistence.

Under the impression that the rectum terminated in a cul de sac, Dr. Parrish, on the 18th of February, performed the following operation:—A probe, having a curvature suited to the purpose, was introduced into the vagina, thence through the orifice of communication into the rectum, so as to protrude the integuments in the place where the anus should have been. An incision was then made upon the point of the probe with a small scalpel through the integuments, and the opening thus formed was freely enlarged both anteriorly and posteriorly, by means of a bistoury, until it was supposed that the intestine was opened, the non-discharge of fæces

being the only circumstance evidencing the contrary. Presuming, however, that the rectum was freely opened, a silver tube, somewhat in the form of a nipple, with a curvature adapted to the bowel, and with shoulders, anteriorly and posteriorly, for the purpose of confining it in its situation by means of tape, was introduced with the view of obviating a closure of the wound, and at the same time of allowing the evacuation of the fæces. But in the course of two or three days, it was positively ascertained that the rectum had not been opened, and that even if it had been opened, it would have been utterly impossible to have prevented a reclosure of the gut.

The disease, or rather the malformation, being unique in the practice of the institution, it elicited a good deal of attention and interest, and it was ultimately agreed to attempt a mode of cure, which had proved entirely successful in a very similar case, that had occurred to Doctor J. R. Barton. Dr. Barton's patient was submitted to an operation very similar to the one described above, but in this instance the fæces followed the incision immediately, demonstrating most unequivocally that the rectum had been freely opened. Even under these favourable circumstances, some portion of the fæces continued to pass by the vagina, and it was found impracticable to prevent the closure of the opening that had been made. Dr. Barton therefore divided the recto-vaginal septum as far as the communication between the two canals, thus converting the two orifices into one. The operation succeeded satisfactorily, the recto-vaginal septum being completely restored. But what is more interesting, notwithstanding the absence of the sphincter ani, the child very soon acquired the power of discharging or retaining its fæces at pleasure, probably by means of the increased strength of the sphincter internus of Albinus, or of some of the lower muscular fibres of the rectum. Encouraged by the success of Dr. Barton's case, Dr. P. performed a like operation upon his little patient, and had the pleasure of succeeding to the extent of his wishes. A very large quantity of infected fæces

was found to occupy the rectum, and by means of the handle of a teaspoon, cicutata, and repeated doses of the ol. ricini, the bowels were thoroughly emptied. On the 6th of March, two days after the last operation, the child voided an unaltered watermelon seed, which must have been in the bowels since the preceding fall; and indeed, there is reason to believe that she never passed any solid excrement. The fæces were at first of a dark colour, and very offensive, but soon acquired the natural yellow appearance. The wound healed; and, on the 27th of March, three weeks and two days after the second operation, the child was discharged cured. At the time of her discharge, she appeared to possess considerable power over the anus, and indeed she could retain or discharge her fæces at pleasure.

We have every reason to believe, that the rectum terminated in this case in the vagina, and not in a cul de sac, as was at first presumed. I will merely add, that no dressings were used, but the finger lubricated with simple cerate was introduced every day or two, in order to do away any tendency which the opening might have to heal.

**ART. VI. *Case of Adhesion of the Sides of the Uterus.*—By
JOSEPH WHEELWRIGHT, M. D. of Westmoreland county,
Virginia.**

IN Smellie's Collections of Cases in Midwifery, Col. 31st, Case 28th, is related the history of a pregnant woman, in whom, the sides of the os uteri were grown together, by Thomas Simpson, M. D. Professor of Medicine in the University of St. Andrews.

In that case, the sides adhered together, so that there was not the *least vestige* of the os uteri; an incision of half an inch in depth, was made into it; the circumference of the

opening thus made being hard, like cartilage, and unyielding, several other incisions into the cartilaginous ring were necessary. There was no hemorrhage or pain from the operation. The passage not dilating sufficiently, the head was opened, and the child was delivered. This patient died twenty-four hours afterwards, more, as the author supposes, from imprudence, than the effect of the operation.

On reading the above case, for the first time, I was struck with its resemblance, in many points, to one which occurred some years since under my own observation.

I send you the following account of the case, as drawn up two years ago from recollection.

In the spring of 1816, being on a visit at Winchester, (Ky.) I was invited by Drs. Barbee, Mills, and Taliafero, of that place, to visit with them Mrs. Barnes, a poor woman of about forty years of age, in labour of her tenth child. She had been in labour more than forty-eight hours when they were called. The report of the midwife was, that the head of the child could not be felt, neither was the mouth of the womb discoverable. This account was confirmed by our examinations. A hard tumour, of an uniform surface, from one and a half to two inches diameter, was felt occupying the place of the os tincæ. Its adhesions to the whole circumference of the vagina were distinctly traced. No vestige of the os tincæ remained; there was no opening, and of course no relaxation.

The pains had been forcible, but from the exhaustion of the patient they were at this time feeble.

Under these circumstances, after consulting an old and experienced accoucheur, who declined any interference in the case, it was determined to suspend, by opiates, the remaining uterine action until the next morning.

On examination in the morning, the same appearances presented, and as the action of the uterus was now sufficiently strong to expel the fœtus under ordinary circumstances, and still no change was effected, it was determined that an artificial passage would afford the only possible

chance for the safety of the mother or child. A crucial incision was made through the tumour, which was hard and nearly an inch in thickness.

Little or no hemorrhage followed the incision. On examining through the opening, the head was felt presenting naturally. The labour advanced rapidly, but as laceration at the extremities of the incision had commenced, and as there was no prospect of the parts dilating, it was thought necessary to lessen the size of the head.

This was done, and the child was in a short time delivered by the expulsive efforts of the uterus alone. She was left with strict directions as to diet, &c. and recovered in the ordinary time, without the occurrence of any extraordinary symptoms ; she afterwards menstruated regularly. It is proper to state that Mrs. B. did not suspect any disease of the uterus previous to labour, neither did she suffer an inconvenience from it after delivery.

The succeeding fall she died, as I have heard, of a bilious fever, and it is to be regretted that no examination was made.

ART. VII. *Case of Empyema successfully treated.* By Dr. CRAVEN, of Harrisonburg, Virginia.

COOPER in his *Surgical Dictionary* mentions a case of Empyema, which was followed by death, in consequence of the operation having been neglected ; it occurred in one of the London Hospitals : the heart, as in this instance, was pushed out of its place.

Sometime in the month of June, 1823, I was requested to visit the son of Mr. Christain Lambert of the county of Augusta ; the youth was about sixteen years of age. I found him supported by pillows in a sitting posture, labouring severely in respiration, so that every moment threatened suf-

focation ; he was covered with cold sweats ; his countenance ghastly, pulse tremulous, feeble and very frequent, with great emaciation of the whole system. The ribs of the left side were so much distorted, that their cartilaginous connection with the sternum had given way, presenting an abrupt elevation of about two inches above their former natural situation. The heart was driven from its place so far as to be felt distinctly beating under the right nipple. An undulating fluid was both felt by himself, and heard by other persons at his bedside, when his friends attempted to change his position.

On enquiry, the following history of his case was obtained from his friends :—On the first of January preceding, he had exercised in various kinds of laborious amusements with other young persons a few miles from home, until a profuse perspiration covered his whole body, and had then sat on the frozen ground until quite chilly and stiff. On attempting to return home in the evening, he was assailed by an acute pain in the left side of the breast so severely, that with much difficulty and some assistance, he reached his father's house at night. About a week elapsed before any thing was attempted for his relief, except some domestic applications by his mother, when the pain accompanied by cough and fever, with difficult breathing, alarmed his father for his safety ; some empirical prescriptions were administered without effect.

The part was minutely examined. A small tumour was discovered betwixt the sixth and seventh true ribs, a little posterior and inferior to the left nipple which receded on pressure, but would quickly return again on removing the fingers ; this circumstance, taken in connection with the history and present symptoms, left no doubt of its being a real Empyema, and pointed to the most eligible spot for the opening to be made.

Accordingly, a common abscess lancet was introduced through the inferior part of the tumour, close to the upper edge of the lower or last true rib, to avoid wounding the intercostal artery, and on its reaching the cavity, very thin

and dissolved pus, spouted out to the distance of eighteen or twenty inches. The canula of a common trocar was introduced, the better to convey the discharge into a vessel which was provided for the purpose, and nearly two gallons were permitted to flow, after which it was frequently stopped by placing the finger on the mouth of the canula to prevent fainting ; this vessel being filled, a considerable quantity besides was received on cloths placed under him. The canula was then withdrawn, and a plug of lint firmly pressed into the orifice, which was secured by a compress and bandage. He was so much relieved by this discharge, that having taken some nourishment and cordials, he dropped into a profound and easy sleep for upwards of two hours. It may be proper here to remark, that from the grating noise which the rough surfaces of the ribs exhibited in respiration, both against the canula and probe, when introduced, I had no doubt of their being carious, and the intercostal muscles as well as the cartilage which united the anterior points of the false ribs were entirely absorbed.

The next morning, when the dressings were removed, the patient was placed in a favourable position on the side of the bed, two or three quarts more of pus mixed with fragments of membrane were discharged ; so that nearly three gallons in all must have been evacuated. A decoction of the *pyrola umbellata* was ordered to be occasionally thrown into the cavity, in order to wash out the detached portions of cartilage, &c. which might irritate as other foreign substances ; and simple dressings externally employed with large firm compresses of folded linen laid upon the elevated points of the ribs, with a view to restore them gradually to their former situation, and a bandage over the whole. Wine, bark, steel, elixir of vitriol, and occasionally infusion of the *pyrola*, with a nutritious diet, were prescribed and strictly enjoined. His appetite improved, and in about a fortnight, to my agreeable surprise, he was convalescent, and the discharge was so much diminished, that on removing the dressings, not more than half an ounce escaped. The above medicines,

with proper attention to the state of his bowels and diet, constituted the whole of his treatment, until his strength and health were restored to a tolerable degree of comfort and usefulness.

When I last visited the patient, which, I have said, was about two weeks from the operation, the whole diseased side of the chest presented the appearance of one uniform flat bone ; the spaces which had been occupied by the intercostal muscles were now filled up by hard cartilaginous substances, so nearly ossified that I was not able clearly to distinguish the ribs so as to count them, and that side did not elevate on inspiration as formerly, but the cavity of the thorax seemed only to be augmented by the depression of the diaphragm, and the healthy motion of the opposite side ; nor had the ribs, if such they may yet be called, returned to their former position with regard to the sternum, but remained more than an inch higher than the bone.

REVIEWS.

Quidquid venerit obviam, loquamus
Morosa sine cogitatione.

MARTIAL.*

ART. VIII. *A Practical Essay on Typhus Fever.* By N. SMITH, M. D. Professor of the Theory and Practice of Physic and Surgery in Yale College, pp. 88. New-York, Bliss and White, 1824.

THE wide-spread ravages of this dreadful form of fever, the uncertainty which prevails with regard to its treatment, produced by the conflicting theories of the opposing partisans for medical fame, and the free spirit of inquiry and observation, which has gone forth of late years to unsettle the practice and the maxims of our predecessors, render this work from the professor of Yale College an acceptable present to the medicine of America.

With regard to the season of its appearance, he states, that, contrary to a received opinion implying that it is a disease of the colder months, he has seen it in every month of the year. In New-England this may be true; but it is a certain fact in the more southern latitudes, that typhus is more particularly confined to winter, and that the increased privations of that season, in the middle districts of our country, render its appearance more frequent, and it is absolutely certain with regard to the epidemic which prevailed about ten years ago, and which made extensive ravages through various parts of this country, that it appeared with the increasing cold of autumn, and entirely fled in the summer months, abating as

* The Dublin Hospital reports are postponed for want of room.

the warmth and dryness of the air increased ; attacking, though less frequently, infants ; more fatal in women from its occurrence during pregnancy and parturition. Our author remarks that for a time it rages over extensive districts of country, and then disappears without any adequate or ostensible cause ; nor is it confined particularly to the poor, but affects alike the rich and middling classes.

In the southern districts of this country this last position is by no means true ; the agency of cold, of moisture, of filth, of miserable diet, of intemperance among the lower classes, render this disease peculiarly prevalent among them, and, with the exception of its epidemic form, the rich and comfortable may be said, in these latitudes, to be peculiarly exempted from this dreadful scourge.

With regard to its contagion our author is positive, and adduces the following facts to support his opinion :

“ A young man, a pupil of mine, was attacked with the typhous fever, from which he recovered with difficulty. Some of his family, who lived about forty miles distant, came and took care of him during his sickness. Upon his recovery, they returned home in good health, but soon after sickened with the same disease, and communicated it to others, who had not been exposed in the first instance. From this, it spread to numerous other families in the vicinity, who had been exposed to the contagion. In the whole town where this occurred, there had been no case of typhous fever for many years, till brought there by the circumstances above related.

“ During the prevalence of the typhous fever in Thetford, (Vt.) a woman went there from Chelsea, about ten miles distant, to visit and administer to a sister sick of this disease. Upon her return, she was herself attacked by it and soon after died. Others of her family contracted it of her ; and in about four weeks, there were thirty persons taken down with typhus, all of whom had been exposed to the contagion.

“ A young man belonging to Plainfield, (N. H.) who had

left his friends, and resided for some time in the western part of the state of New-York, returned to his father, who had a numerous family. He found himself unwell before he reached home—was immediately confined with typhus, and soon sunk under the disease. In about four weeks after, I was called into the family, and found nine members of it sick of the same fever.

“With a knowledge of these facts, and many more, equally to the point, it is impossible for me not to believe this fever contagious, though it may not perhaps be so certainly and readily communicated as some other contagious diseases.

“Some physicians admit that typhous fever is often communicated from one person to another, who nevertheless suppose that it is frequently produced without any contagion or specific cause; that is, that it arises in many cases from errors in diet or exercise, from the effects of temperature, or what Sydenham would call an epidemic state of the atmosphere, from marsh miasmata, or confinement in close and crowded apartments. This is a difficult subject, and it is not easy to demonstrate that it is never produced by some or all of these causes, and perhaps the circumstance of analogy is all that can be adduced against the assumption.

“However, the fact already noticed, of the absence of typhus in a large section of country, for an interval of more than twenty years, would lead us to doubt the possibility of its being produced by any of the accidental causes above enumerated; for in such an extent, and among so many people, it is impossible but that some of these circumstances should have occurred—and the disease of course be produced. Besides, if it can be communicated from one person to another, it has a specific cause, and I know no disease that arises from a specific cause, that can be produced without the agency of that cause.

“It has been suggested that typhus occasionally arises from marsh miasmata,* the same which under certain circum-

* Good, *Study of Medicine*, vol. ii. p. 188.

stances, produce intermitting and remitting fevers. A fact, which I shall here adduce, is strongly opposed to this hypothesis. On the Connecticut river, from Northampton, in Massachusetts, to its source, a distance of more than two hundred miles from north to south, and on all its tributary streams, on both sides, for an hundred miles in width ; there has been no instance of any person's having contracted the intermitting fever, from the first settlement of the country to the present time ; and yet the typhous fever has prevailed more or less in every township within that tract of country.”
p. 12.

He states an instance of the effects of disease upon the moral principle, which is curious.

“ A patient in particular, who had been extremely sick with this disease, after his recovery had a strong propensity to steal, and did in effect take some articles of clothing from a young man to whom he was under great obligations for the care he had taken of him during his sickness. He at length stole a horse and some money, was detected, and punished. I took some pains to inquire into the young man's former character, and found it good, and that his family were respectable.” p. 32.

With regard to the powers of digestion he says that in this disease it is entirely lost ; this opinion, general among the profession with regard to all fevers, is one of extensive evil ; as it leads to a sparing use of those means which are calculated to excite and give permanent strength to the system. During the attendance of the Editor of this Journal, as one of the physicians of the Pennsylvania Hospital, the digestive power of the stomach in fever was incontestibly proved by a series of observations. Led by the contemplation of the great mortality produced by this class of diseases, to the actual power of medicine in relieving them, he was astonished to find, that, in the opinion of the ablest physicians of the last century, it was solemnly believed that the present modes of practice in fevers generally were entirely inefficacious ;

that they were rather to be considered as palliatives, than as leading them to a certain termination.

With these views, the feeling of the medical world in a class of maladies so general, so mortal, appeared to be supine to the most culpable degree; inquiry became a duty, and it was accordingly commenced on the following principles: In the typhous states of the system, which occur after the continuance of the fevers of autumn, the wine usually prescribed was omitted; in the next case, the volatile alkali; in the next, opium; finding that the cases recovered, at length, all medicines were omitted, and the patients were treated by diet alone, and with the most complete success. Sago, tapioca, barley water, were given in the quantity of a gill and more every two hours, which was vigorously persevered in night and day, and it was found that the stomach, so far from being unable to digest these substances, on the contrary, after rejecting the first few doses, digested them perfectly; the stomach became settled; the bowels were moved; the dejections from being brown, or black, gradually became natural, the delirium disappeared, and the patients were soon perfectly well. So confident is the editor of the value of this practice, that he believes that this plan of treatment is free from the disadvantages of the usual medicines, of opium, of volatile alkali, &c. which have a stimulating, but not a strengthening power, which excite and increase those inflammations which exist in this disease, frequently in the liver, lungs, or brain, and silently put the seal of death upon the patient by the formation of abscesses, when no danger was suspected from the inability of the patient to tell the seat of his pains. Mild vegetable diet gives power, without great stimulation, and does not increase the irritability of the system at the expense of its strength; brandy, opium, volatile alkali also in common with every medicine of the class, though they excite, for a time, the system, they leave it more exhausted; and this applies to the digestive powers, as well as to the whole system; for these reasons I am induced to state, that the plan of treating typhus by diet is

highly efficacious, and that, contrary to the opinion of Dr. Smith, the stomach possesses, after rejecting the first two or three portions, in a high degree, its digestive powers. This plan has been tried by a practitioner of high standing in Baltimore, and with the most complete success.*

As to the state of the bowels, he thinks that diarrhœa is the consequence of the severe forms of the disease, and that he has never known a fatal case of typhus unattended with that affection.

As to the cure of this disease, the first question which occupies the mind of our author, is its speedy arrestation on its first attack, which he thinks impossible, stating that he has never seen a case of typhus terminate under two weeks, by any curative means which have been used.

"I have seen many cases, where persons in the early stages of this disease were moping about, not very sick, but far from being well, who, upon taking a dose of tartrite of antimony with the intention of breaking up the disease, have been immediately confined to their beds.

"In fact, I feel well convinced, that all powerful remedies or measures, adopted in the early stage of typhous fever are very liable to do harm, and that those patients, who are treated with them in the beginning, do not hold out so well in the latter stages of the disease."† p. 47.

In this practice Dr. Smith certainly differs from the most celebrated men of our day; the black stools, the irregular

* It has also succeeded in ordinary remittent fevers.

† "Happening in company with a physician with whom I was slightly acquainted, he observed that he had adopted a new method of treating typhus, which I was aware had been prevalent in the vicinity where he lived, and stated that it had proved very successful. Upon my inquiring into his peculiar mode of treatment, he informed me that it consisted in giving his patient milk and water, and nothing else, through the whole course of the disease, and affirmed that he had treated quite a number of patients, and had not lost a single one since he had adopted this mode of treatment.

"I take this to be a confirmation of my opinion, that powerful remedies are not properly used in this disease, unless called for by particular circumstances, and these circumstances are more rare than is generally supposed."

state of the stomach appearing, the furred tongue, loss of appetite, &c. indicate the use of medicines of this class. According to the best authorities, the first access of this form of fever is treated by the combination of tart. emetic or ipecac. with calomel, in order to evacuate both the stomach and intestines, and establish the function of the skin, and there can be no doubt with the effect of arresting its progress. Cold water, also, when applied by affusion, has certainly had the effect, and it has been arrested even as late as the third day.

The first measure, which generally is proposed, is venesection, which our author seldom found necessary, and never attended with benefit where there was no local inflammation or congestion; local pains with great heat and fulness in any part render bleeding advisable; but if the pulse be very frequent, venesection will not be proper; leeches he thinks particularly useful. The practitioners in New-England have been much divided on this subject, and Dr. Smith remarks that it is a little extraordinary that those who advocate the stimulating and depleting plan, boast equally of their success, and says that we must conclude, if their reports be correct, either that they did equal mischief, or that the disease advanced, little affected by either plan of treatment.

In another part of the Essay, he expresses opinions discordant with the use of this remedy.

“ I will not take upon me to say that this fever is never connected with local inflammation, but if so, it is not with that kind which we generally denominate phlegmonic, or that, which tends to suppuration, nor that, which has been called sthenic, as is conclusively proved by the effects produced upon it by blood-letting, since this evacuation possesses a controlling influence over the one, while it has but a slight power over the other.” p. 57.

“ That patients often recover from this disease after blood-letting has been practised is an unquestionable fact, and the inference which should perhaps be drawn from it, in conjunction with the facts mentioned above, is, that the loss of

a moderate quantity of blood in typhus, is not of itself dangerous, and in a majority of cases, may be allowed with impunity. There are cases however in which it may be essential to the patient's safety, while in others it may prove highly injurious. The judgment and skill of the physician is necessary in each individual case to determine the propriety of its adoption, as well as the quantity which should be abstracted.

"I have never seen any benefit from blood-letting in typhous fever, where there was no local inflammation or congestion, that particularly called for it." p. 54.

These quotations prove, that the author is not himself sufficiently settled upon the principles at least, which should direct the use of the lancet; though in his general views he seems to admit it. We shall, therefore, in order to establish a correct judgment on these opinions, give some remarks on the present views of the medical world upon it.

In Italy, Tommasini, the celebrated professor of Bologna, considers typhus as an inflammation of the brain. In Parma, this class of fevers has been treated with the greatest success upon the antiphlogistic plan, by emetics, cream of tartar, tamarinds, and antiphlogistic drinks. A patient with typhus on the point of dissolution, was recovered by bleeding copiously from the temporal artery, and while the blood was still flowing, the patient recovered strength, colour, and feeling. Another case, in which the patient was pale, delirious, and agitated with subsultus tendinum, with the pulse extremely small, the muscles of the face convulsed, and the pupils dilated, was cured by bleeding and copious draughts of acid drinks. Another, who had stertorous respiration, subsultus tendinum, and delirium, was relieved by repeated blood-lettings, antimonials, and the antiphlogistic method. On examination after death, the membranes of the brain were thickened and highly injected with blood, attended with extravasations of bloody serum into the cranium. In some instances leeches were applied to the temples and large quantities of blood were drawn; the relief to the pain of the

head was immediate, and the patient, though pale as death, the eyes faded, the respiration difficult, the pulse uncertain, extremely small and intermitting, entirely recovered.*

Some of the most celebrated physicians of Germany consider typhus inflammatory in its commencement, and as requiring the free use of the lancet; others, less decided with regard to the use of blood-letting, think it should be treated on the antiphlogistic plan. Dr. Dickson has described a low contagious fever, which prevailed on board the Russian fleet, in which blood-letting was used with the most decided advantage, and the appearances showed on dissection, fully confirmed the necessity of this practice. The bowels, the lungs, and the brain, were the seats of active inflammation. From an extensive view of the circumstances attendant upon this epidemic, Dr. Dickson was clearly of opinion that the early adoption of venesection and purging administered with vigour, prevented the more serious symptoms which follow in the last stages of this disease, and that the venesections, instead of being small and frequently repeated, should be copious and early.

Amidst these contradictory statements, how is the practitioner to direct his steps? Our author gives us no clue. Let us examine for ourselves, and see whether the success which he attributes to the whims of the practitioner, has not a more solid foundation in the nature of the cases, which were treated in these different modes. In cases of simple typhous fever, where the pulse is moderate, easily compressible, with no symptoms of local inflammation, or general active febrile excitement, bleeding may in general be dispensed with, and if drawn, it must be local, and only where a sense of fulness, or pain in any part may indicate its expediency, and should not exceed 10 ounces. On examining the Italian authorities, we find that they mention epidemics of a typhous character which were treated by the antiphlogistic method, but in which venesection is mentioned as

* See Tommasini's Introductory Lecture, translated from, &c.

being taken locally or very sparingly ; convincing us, that notwithstanding the quotations of its use in the lowest cases, the practice of blood-letting, is not, even in that country, used as a general and a standard remedy ; a circumstance which might be inferred also from the stress they lay upon the disease arising in inflammation, and of course only to be treated by depletion, according to the violence of the symptoms of that state. The views quoted above from Tommasini, no doubt derive something of their strength of colouring from the highly excited state of the mind of that professor, by his new doctrine, which must regard every medical phenomenon, through the medium of a highly excited fancy ; his facts must therefore be taken with some limitation. The practice of blood-letting may then be generally dispensed with in the mild cases of this disease, and when it is practised, it must be in limited quantities as above directed. Prescribed in this manner, we have no doubt that it will frequently shorten the duration of the fever, give efficacy and promptness to the operation of the other means, and render smaller doses of the cathartic and stimulating medicines necessary.

With regard to the propriety of venesection, the age, constitution, former diet, habits, and state of mind, must determine its adoption ; and it is to this circumstance, to the more highly excitable, rigid, and powerful state of the constitution of some patients, that the disease acquires an inflammatory cast, and blood-letting is more positively required. In persons, whose systems are braced by youth, by regular exercise, who live well, with all the cheering circumstances of prosperity around them, it may be well imagined that a different practice should be adopted than that pursued in those cases where poverty, distress, bad food, &c. conspire to debilitate the body, depress the mind, and display the typhous disposition in its most hideous and debilitated form. Accordingly, it is in the acute stage of this disease occurring in patients of the former description, that venesection is particularly required, and it is only on the

first, second, or third day of this stage, and where a local inflammation is united with it, that blood-letting more certainly becomes necessary. In these cases, when the individual has been strong and healthy previous to the attack, the power of the system is oppressed, not exhausted; then the loss of blood will relieve the organ whose functions are debilitated by the inflammation, and increase the power of the whole system, weakened by sympathy with the local affection. The oppression of the system produced by this cause, depends much upon the organ affected. If it be the brain, the system exhibits marks of greater debility than when the lungs, liver, or the bowels are affected; the intensity and extent of the local action will also modify the state of the general system. In the exanthemata, particularly the small-pox, in erysipelas, there can be no question, the wide spread inflammation of the surface is the principal cause of the typhous state which so frequently attends these maladies, and there can be as little doubt, that bleeding promptly, early, and judiciously administered, will relieve the local inflammation, by lessening its extent and intensity, and, of course, excite, raise, and support the general system. It must however be remembered, that it is only in the first periods of inflammatory typhus that the practice applies; for whether it is owing to the debilitating nature of the poison when it proceeds from contagion, or from the character of the disease, the period of exhaustion soon follows, when the abstraction of blood even in small quantities would certainly be fatal. It is therefore necessary, when called to a patient, to ascertain from his previous habits the state of his health, the vigour and firmness of his constitution, to know exactly the seat and extent of the local disease, and if any doubt should exist with regard to the power of the general reaction to depend upon local bleeding to a degree sufficient to remove the inflammation, and if after it is removed, still from the increased heat of the system, to determine to what degree the antiphlogistic plan, and what measures of that plan, may be proper; whether,

according to the Italian mode, the exhibition of large quantities of tartar emetic, administered in divided and small doses frequently repeated, may be given; the use of cold affusion, or the warm bath, purgatives, or sudorifics, more or less depletory, as it may be thought proper to preponderate antimonial, or anodyne ingredients in their composition. The various parts of this plan, of course, will have a reference to the organ affected, to the extent of the local disease, to the age, habits of constitution, circumstances in life, education, delicate, luxurious, or temperate, &c.; to the country, whether marshy or mountainous, undulated, or plain; for the tone of the system will be found to vary accordingly, the temperament evolving itself in typhous symptoms, in the low and impregnated air of marshy districts, gradually increasing in tone as we ascend from the dry savannah to rolling or mountainous districts of country.

The season, too, has its influence; the moisture and the cold of the first months of spring, will give a character more decidedly typhous than the more advanced periods of the same season. And in this country, in the dry temperature of the fall, it will be found to assume a more inflammatory character; whilst in winter, varied by every wind, from the high tonic bracing quality of the north, the north-west, and the more relaxing south; by the cold raw moisture of the south-east, and north-east and east, it will be found to assume, particularly among the lower classes of people, exposed to every privation and misery, its lowest and most characteristic forms, when the lancet must be used with caution, often with the greatest possible discrimination, and frequently with great danger.

These views arise naturally out of the diversified susceptibilities of the human system. It must however be recollected, that owing to their regularities of patients, particularly in the lower walks of life, in this country, where ardent spirits are easily procured, and injudiciously administered to the sick by the interference of nurses, that patients may frequently exhibit symptoms of inflammation when it does

not exist. The heat of a close room, the excitement produced by the visits and conversation of officious friends, the excessive weight of the coverings of the bed, will often produce delirium, dry and furred tongue, redness of the face and eyes, and thus evolve the appearances of a phlogistic diathesis, which will be speedily dissipated by the removal of these noxious agents. The physician must therefore be upon his guard, and determine from a cautious and correct view of the case the actual situation of the patient.

It may even be necessary in some particular instances to combine gentle dietetic means, and even to use stimulants with local bleeding, for sometimes the lungs, the liver, or the brain, may be the seat of dangerous inflammations, unattended by general febrile excitement, advancing slowly and silently to the formation of abscesses, proving certainly mortal, when the prompt and early use of this remedy in a local manner, by removing all local determinations, would have converted the disease into a plain case of fever, which might be cured by the ordinary tonic and dietetic means.

We therefore with the greatest deference regard the views of the aged professor, to be expressed upon this subject with a hesitancy, which leaves the timid to the full influence of their fears, and renders useless to the bold and the enterprising that energy which, under the direction of symptoms and of circumstances, might be of extensive usefulness, in the preservation of many lives. In New-England, it is true, from the greater prevalence of cold, the doctrines and experience of this distinguished man may apply more implicitly than in more southern latitudes; yet it must be recollected, however powerful the effect of temperature may be upon the human system, still the artificial modes of existence introduced by civilization have greater influence, and we have no doubt that among the laborious and the temperate, the rich and the luxurious classes of the community to the north, the views we have laid down will be found frequently to hold; and, without applying the remark to Dr. Smith, we would observe to the profession, that that physician who enters upon

the practice of medicine, particularly in this extensive class of diseases, with any other maxim to direct his conduct than the symptoms, modified by all the varying stimuli and habits of life, and the differences of constitution naturally incident to the human system, must indeed set sail upon a perilous and uncertain ocean, where those committed to his charge will depend more upon the chances of a prosperous fortune, or the mercy of heaven for their safe deliverance, than the skill and judgment of him who directs their fate.

Emetics and purgatives he considers, in the mild cases of this disease, as entirely useless ; and believes that the interference of the physician, except to administer simple diluent drinks, and a very small quantity of farinaceous food, is wholly unnecessary. When, however, they are believed to be necessary, as is evinced by nausea, sickness, and oppression at the stomach, ipecacuanha, eupatorium, or the sulphate of zinc must be preferred ; tartar emetic he considers as dangerous in the first stage, and in the last, it is sometimes followed by fatal consequences. The others will be found useful in the last as well as the first periods of the disease. We think our author rather too limited in his views of the use of this class of remedies ; there can be no question, that in certain states of the lungs, these remedies prove extremely useful, and are the main reliance of the practitioner, particularly when symptoms of congestion or inflammation appear there, and when the system is too debilitated to apply more active plans. This class of remedies is particularly advisable too, in this form of the disease, to keep up perspiration ; and for the same reason purgatives must be avoided, as they tend to diminish that evacuation, and increase the disease of the lungs ; and when the trachea is affected, they become important agents in the cure, combined with *polygala senega*, and other stimulating sudorifics.

Cathartics, particularly when powerful, he considers as injurious. Costiveness, he states, often occurs in this disease ; consisting however only in the unfrequency of the discharges, and not in their consistence. If a strong ca-

thartic be exhibited, it is frequently followed by a diarrhœa, which is always liable to become dangerous, and if continued, he considers it a fatal symptom. Laxatives he regards as peculiarly proper; calomel, ipecacuanha in small and repeated doses, senna, rhubarb, are the best articles of this kind.

In this particular our author is at variance with the most approved medical authorities, both here and abroad. The stools are frequently black, brown, of a disagreeable smell, and require to be evacuated by the free use of the most active purgatives, without which, the patient remains in an oppressed state, the brain much affected with stupor, from which he recovers as soon as this evacuation has taken place, and the stools assume a natural appearance.

With regard to blisters, he believes them to produce very inconsiderable influence on the disease. They may be used to relieve local pains, "but in most cases if they do no good they produce no bad effect."

In this position he stands opposed to the practice, we believe, of practitioners generally, in this country and in Europe; and I am convinced that in low cases of small-pox, where the typhous state is developed to a most alarming degree, that I have seen the patient kept alive for many days by the application of cantharides boiled in spirits of turpentine and applied to the legs; the influence of this agent may be readily appreciated, when we recollect its effects upon persons poisoned by opium, or other narcotics. They render the system more susceptible of the action of remedies, and in typhus, where the sensibility is great, from the affection of the brain, we have no doubt it produces the same effect.

The mild diaphoretics, as ipecacuanha, contrayerva, Virginian and seneka snakeroots, he considers may be tried with impunity, though he believes that they seldom produce any effect till after a crisis has been formed; and when external heat is used with stimulating remedies to force a sweat, its consequences are always pernicious.

His testimony, therefore, is entirely negative upon this

subject, and we think too limited. There are certain instances in the very first stage of the disease, when determination to the skin must be attended with the very best effects; where the pulse exhibits some degree of action, and where, owing to the debility of the patient, it may not be proper to deplete in a more active way, and where local pains indicate either inflammatory tendencies in the head or the viscera, and where these dispositions are sufficiently powerful to prevent the exhibition of volatile alkali and wine whey from the danger of their stimulation. In these cases it will be found that the use of the warm bath, frictions of the skin, as lately recommended by Calvert, and the removal of the patient to a warm bed, and then the exhibition of diaphoretic drinks, cordial or otherwise, as the case may be, will have a tendency to soften the surface and dissipate the fever, and also to resolve those inflammations which threaten to prolong the disease, or insidiously to undermine by the formation of abscesses, the life of the patient.

Opium he considers as at best a doubtful remedy. Mercury he regards as objectionable from the danger of necrosis of the jaw, which sometimes takes place, from the fact that the disorder runs its course in forty or fifty days after the salivation is established, and from the discharge which sometimes continues for a long time after the specific effects of the remedy have ceased, attended with a loss of appetite and rejection of food from the stomach. This last effect sometimes continues for eight or ten weeks after the disease is removed, and of this he has seen many illustrations. Notwithstanding, he recommends the blue pill, or small doses of calomel as useful in certain cases, without, however, specifying what these cases are; and considers calomel and opium as proper in the colliquative diarrhoea which attends this complaint.

With regard to mercury, it is certain that a gentle salivation frequently arrests this disease.

As to refrigerants, he does not think them useful, but prefers the effect of cold air or cold water, the latter of

which may be applied externally or taken internally. He permits his patients to drink of cold water as much as they please, and its useful application externally is shown by the following cases.

"In the summer of 1798, the first year in which this fever occurred in my practice, T. B., a young man of about twenty-five years of age, was brought into my neighbourhood sick of typhus, for which he had been bled before I saw him; the fever was severe, and his unfavourable symptoms increased for several days. In a consultation, it was agreed to put him into a warm bath, which was done.

"He was a little delirious before he went into the bath, and when he came out, was raving. From this state, he sunk, in the course of the next night, into a low muttering delirium, with a great degree of coma and starting of the tendons, and with scarcely the ability to swallow. His pulse was irregular, but still possessed some force, and his heat was above natural. Twenty-four hours were passed in this situation, without any symptoms of amendment. The next day when I visited him about nine o'clock in the morning, the weather being very warm, (as it was in the month of July,) a young man, who had engaged to attend him that day, came in, bringing a gallon pitcher full of cold water, which he had just drawn. Finding the patient's pulse had some strength and his heat continued above natural, I stripped him naked as he lay on a straw mattress, and poured the gallon of water over him from head to foot. He seemed to feel the shock, but did not speak. The young man in attendance was ordered to repeat the affusion as often as he began to grow dry and warm, which was punctually performed.

"When I visited him a little after sunset, his heat was diminished and his pulse did not intermit as often as it had done. He was then taken off the wet bed and laid on a dry one, likewise of straw, with nothing but a linen sheet spread over him, the windows of the chamber were kept open through the night, and a dose of opium and musk was pre-

scribed and taken. No other internal remedies were administered. Next morning there was no alteration. The affusion of cold water was renewed as the day grew warm, and the heat was kept down through the day as it was the preceding one. Before night, the patient recovered so as to speak, called for more water, and said he wished to be put into the river. From this period he became convalescent, and recovered without the use of any other remedy.

"In the month of September, of the year 1800, I visited A. P. a strong robust man, aged between thirty and forty years. He had been sick about a fortnight, his head was not much affected, but the heat was great and his thirst urgent. My visit was in the evening. The body was stripped, that is, the sheet which was thrown over him was removed, and his shirt divided down before so as to expose his body, and about a quart of cold water was applied by sprinkling it on with the hand. The sheet was then thrown over him; and the water applied as often as he became dry and the heat began to return. A little peruvian bark, mixed with some nitrate of potash, was all the medicine taken. Previous to this he had drank, every night, two quarts of some diluent drink, for several nights in succession. After the first application of the water, that parched sensation of the lips and mouth, which urged him to drink so much, abated, and he lay the whole night without any desire to drink. The next day he was convalescent, and recovered without medicine.

"I. B. a strong robust man, aged between thirty and forty, had been sick a fortnight when I visited him; his pulse was frequent, his heat great, and his mouth exceedingly parched, so much so that he could not sleep but for a very few minutes at a time without being awakened by a sense of thirst. His feet were very cold.

"This individual had been badly treated, and his friends had been prevented from changing his linen and bedclothes by the physician, who had fears that he would take cold!

"The patient was first shaved, an operation which had

not been performed for something like a fortnight, he was then slipped down in the bed so as to drop his feet into a vessel of warm water and soap, where they were rubbed till they became clean and warm. The bed and body linen where then changed and he was properly placed in bed. The affusion of cold water was commenced over the head and breast, and repeated sufficiently often to keep down the heat. The distressing thirst was removed at once, he became convalescent the next day, and recovered without any further medical treatment.

"I could detail a great many additional cases, where the good effects of cold water were as apparent and as immediate as in the cases just cited ; and in no instance where I have used it, or seen it used by others, has it done harm. There are cases, however, where its application is not called for ; at the same time there are but few in which it may not in some stage of the disease do good. It is always grateful when applied to the face and mouth, and its vapour is very salutary and refreshing to persons sick with fever." p. 76.

Let us now look back upon the ground we have traversed. Medicine has been called an uncertain science, a doubtful art ; and the diversity of opinion exhibited in the treatment of fever, not merely within the range of medical history, but at any particular period certainly confirms the opinion. There are three agents in busy and active operation in the cure of every disease, and it depends upon the exact, precise, and proper balance and due adaptation of each to the other, whether the patient be conducted to health in the most agreeable, the most rapid, and safe manner possible. There are, 1st, the resources of the physician ; 2dly, the disease ; and lastly, the powers of nature, which conspire or oppose the operation of the first, according as his conceptions are just, and his means appropriate to accomplish his end.

With regard to the first, as exhibited in the foregoing Essay, we should say that its author, tied down to the system prescribed by Cullen, which admitted only of the use of stimulating remedies, from the idea that typhus is a disease

of debility, has followed with too unlimited faith in the regular path which that great man had trod before him. As exposing, therefore, a full, precise, and accurate system of results on the views of Cullen, we recommend the book of Dr. Smith to our readers as a useful addition to every medical library, and more particularly as the doctrines of a contrary cast have not yet, though sanctioned by names of great ability, received the strong passport of time in their favour.

With regard to the power of medicine, we think he attributes too little, to that of nature too much; and though the book is certainly highly valuable, we consider it as written by an author, who has come to that period of life, when enthusiasm and zeal are extinguishing in the infirmities of age; when the scenes of this world are beginning to be regarded as vanity and vexation, and when its evils are looked upon, more as the result of the ordinary course of nature, and rather to be suffered than opposed.

ART. IX. *The New-York Medical Repository of Original Essays and Intelligence relative to Physic and Surgery, &c.*
New Series, Vol. VIII. No. 1, for August 1823.

*Observations on the Biliary Malignant Fever which prevailed in the City of New-York in the Summer and Autumn of 1822. By CHRISTOPHER C. YATES, of New-York.**

The New Medical Doctrine of Italy. By M. TOMMASINI. Translated from the French, delivered as an Introductory Lecture to a course of Clinical Instruction in the University of Bologna.

THE high character which medicine has acquired in Italy, renders it necessary that some notice should be taken of this doctrine, which has gained many proselytes, and which pretends to have founded a system of practice, the result of its

* Those papers which contain nothing interesting are not reviewed.

principles, materially different from the prevailing modes. The extensive dissemination of knowledge, the dominion of the principles of common sense, and the philosophical investigations of the present day, have driven from the greater portion of the civilized and educated world those chimeras of the imagination which have heretofore directed medical science, and have induced us to hope, that, like chemistry and natural philosophy, our science may become solid and experimental, and that the safety of mankind will no more be committed to the wild vagaries of the fancy, or exposed to the tricks of intellectual charlatanery, which, under the mask of hypothesis and theory, have sought, at the expence of health, and of life, a vainglorious reputation, which has uniformly disappeared with the eloquence and the imagination which had given it birth. This doctrine has arisen out of the system of Brown, which, in practice, is absurd enough, however fascinating and ingenious it may be as a work of fiction. Its author is Rasori, a man of some celebrity. It arose upon the fall of the two strongholds of the Brunonian system, namely: 1st, That all medicines were more or less stimulant. 2d, That the weakness produced by this excess of stimulation, called indirect debility, was the cause of the greater number of diseases. Accordingly, Rasori states that all substances are not stimulating, but that some are directly sedative, which are called counter-stimulants, and are tartar emetic, digitalis, aconitum, purgatives, &c. These remedies he uses in inflammatory diseases, and we can see, with regard to the practical bearing of the doctrine, no innovation whatever, excepting that tartar emetic and some other medicines have been given to great excess in the phlegmasiae, and on this fact, the doctrine that these medicines have a directly sedative or counter-stimulant power has arisen. The denial of the state of indirect debility, as the cause of most diseases, is another point of the doctrine; Rasori states that inflammations are not the result of debility, but of stimulation, and that the ordinary remedies which are applied to relieve it, are, from this effect, called counter-stimulant.

The old practice continues, with some extension as to the dose; thus twenty or thirty grains of tartar emetic are given in rheumatism, or pleurisy, in the course of a day, though with the same object, that of abating the inflammation, the advocates of Rasori saying that it operates as a sedative or counter-stimulus, an effect known formerly by refrigeration, or other terms equally satisfactory. This effect of refrigerating medicines, to depress directly the living powers, is brought forward as new by Rasori. Fordyce stated expressly, thirty years ago, that tartar emetic had a directly debilitating effect upon fevers, and relieved them in that manner. As to the novelty, therefore, of the principle of direct sedatives, it is not to be attributed to the Italian school; and with regard to the existence of a direct sedative, though the fashion of the day appears to admit it, yet in France it is still doubted. Broussais, from the general tenor of his works, appears to still advocate the doctrine of Brown, that medicines are more or less stimulating, and to doubt the position of Rasori, though in some few places he appears to give credit to it.

The leading principles, then, of the doctrine are as follows:

“ 1. That many substances exert an action on the living fibre diametrically opposed to a stimulant action, and produce on the excitability immediate effects, which Brown attributed to the action of negative powers alone, and to the diminution of stimulants.

“ 2. That these substances, for that reason called contra-stimulants, destroy the effects of excessive stimulus, even without producing evacuations; and that if we apply them when not called for, or in excess, they produce diseases which can only be overcome by augmenting the stimulants.

“ 3. That contra-stimulants, as well as venesection and purgatives, afford the means of curing every condition or morbid phenomenon, which depends on excess, or the diathesis of stimulus; and that conversely, stimulants are the remedies for a state of contra-stimulus.

“ 4. That the fibre can bear larger doses of contra-stimu-

lant, or stimulant substances in proportion as the diathesis of stimulus, or contra-stimulus is stronger.

"5. Finally, that this capacity to bear their operation (*tolerance*)* affords us a better indication of the force of the diathesis, than the symptoms." p. 25.

The paper concludes with some remarks on the principles of Brown, and a detail of the nature of counter-stimulating medicines. This system, like all others which have been advanced, presents nature in a new dress; the practice it teaches is not different from our former modes excepting in the excessive exhibition of digitalis, tartar emetic, and other sedative or counter-stimulating remedies, in inflammatory diseases.

A Review of Eberle's Therapeutics and of Broussais' works follow. The first is a work of merit.

With regard to the theory of Broussais, an abstract of it has been already given in a former number; but as the doctrines of this innovator of our science are fantastically dressed out in new terms, which attract the young, and conceal from the old the precise scope and meaning of his doctrine, we will simply state that he considers all diseases to arise from an inflammation of the stomach and intestines, and that he depends for their cure upon a diet of the most rigid character, almost entirely water; rejects purgatives, emetics, as tending to increase the inflammation of the stomach, and principally depends upon the application of leeches to the belly, in inflammatory diseases, by which he draws blood to the extent, sometimes, of sixty ounces, a quantity quite equal to what is generally practised from the arm, though the author rather preposterously refers his success, almost exclu-

* "The word *toleranza* is used in the Italian language to express the faculty which the system possesses of bearing a greater or less dose of medicines in proportion to the degree or violence of the disease. If, for example, a patient labouring under acute pneumonia bears twenty or thirty grains of tartar emetic without producing vomiting, he is said to tolerate this dose; but if any dose however small vomits him he is said not to tolerate it. These expressions are rendered literally in order to avoid periphrasis."

sively, to the place from which the blood is abstracted, and not the quantity which is taken. Rasori depends upon emetics, Broussais upon blood-letting and diet, for the cure of inflammatory diseases ; both proving, what we believe was well known before, that emetics, or bleeding, or an extremely rigid diet, will cure diseases of high excitement, without invalidating the truth either of the regular and old modes of practice, or those of each other.

Cases of Nervous Diseases. By DR. C. C. BLATCHLY, of New-York.—These cases are detailed with the view of exhibiting the close connexion which exists between the diseases of the nervous system. The first demonstrates the alternation of epilepsy, hysteria, cataphora, and childish insanity in the same system, succeeding each other in the order above detailed, and finally terminating in health. The practice pursued is not new. The second case illustrates the connexion of epilepsy, hemiplegia, and apoplexy.

A case of Hemiplegia successfully treated by the Nux Vomica. By JOHN BAXTER, M.D. of New-York.—The disease followed an attack of measles ; the medicine was given on the twelfth day, and in three hours after the second dose, tetanic symptoms were the result, with some excitement of the brain similar to inebriation. By the twentieth day, the child could walk with some difficulty, and by the twenty-sixth, was so well as to render the medicine unnecessary. In this case, the hemiplegia was produced, most probably, by the excessive action of the vessels of the brain in the fever of the measles ; and was continued after it had subsided, as the author supposes, from their relaxed state. The stimulant effect of the nux vomica, by removing the debility, effected the cure. The paralytic side, in general, is only affected with tetanic symptoms by the medicine ; in this case, both sides were equally convulsed by it.

Case of Superfætation. By F. W. NORTON.—The wo-

man, the subject of this case, was delivered of a black child about a month before her time. In about six hours afterwards a perfectly well formed white child was expelled, apparently of the age of four months. The fœtuses are preserved, and the case attested by Dr. Stearns of New-York.

Under the head of Medical Intelligence, the yellow fever of Barcelona is noticed, in which there is nothing new. Medical opinion there, as in this country, is divided on the origin and mode of propagation of the disease.

Dilatation of the Female Urethra.—Sir Astley Cooper has proposed an instrument for this purpose, constructed on the plan of a speculum ani, to enlarge the urethra, so as to permit the urine to escape during its application. It succeeded in a case, after remaining in the urethra for eight hours, when the stone was extracted by the forceps. Fever resulted; antiphlogistic means were used, and the patient recovered. The introduction of the instrument for a few minutes, Sir Astley supposed, from the facility with which the urethra dilated, would have been sufficient.

Diabetes Mellitus.—Dr. Heineken, of Madeira, has succeeded in curing this disease by the following plan: Pulv. Scammon. 3i.; pulv. opii 3i.; hydrarg. submer. gr. v.; antim. tart. gr. ii.; to be made into twelve pills, one of which was administered three times a day. A warm bath was administered every night, and the chest, arms, and abdomen were well rubbed with sweet oil every morning, with the exclusive use of animal food. In four months the patient was restored.

A case of Rheumatism transferred to the heart, in which this organ, on examination after death, was found covered with coagulable lymph. Bleeding, mercury, and blisters are proposed as the remedies to prevent this fatal result, which we believe occurs more frequently than is generally imagined.

Some remarks are made upon the yellow vision of jaundiced persons, which lead to no practical conclusion.

A paper of Charles Bell is quoted from the London Journal, upon the muscles of the eye.

A case of double uterus and vagina is mentioned as having occurred in the practice of Dr. Tiedman of Heidelberg.

And the number concludes with a notice of a work by Dr. William B. Gilley, in which the author makes a proposal of a place of general burial near to large cities, from the danger of infectious diseases produced by the accumulation of the dead, within their precincts; a proposition well worthy of attention, from the late fatality occasioned by that cause in New-York, and for a long time in Europe.

ART. X. *The New-York Medical Repository for November, 1823.*

Remarks on the Endemic Yellow Fever of New-Orleans during the summer and autumn of 1822. By ROBERT C. RANDOLPH, M.D. Surgeon in the United States Navy.—The disease was excessively mortal; all remedies, even mercury, were generally unavailing. The author gives nothing new, either in principle or practice. A continuation of the Review of Dr. Eberle's Therapeutics forms the subject of the next article.

A Memoir upon Auscultation applied to the Study of Pregnancy, or Researches on two New Signs, calculated to make us acquainted with many circumstances, &c. By M. J. A. L. DE KERGARADEC, M.D.

“ The stethoscope of Dr. Laennec, of Paris, has enabled practitioners to ascertain with considerable exactness the different lesions of the pulmonary system; its employment will, in all probability, be productive of the most important results, by affording the practitioner the means of adapting

his remedies to the different morbid conditions of the respiratory organs, and thus succeed in removing many of them before they become complicated and incurable. This means has more recently been applied to the study of pregnancy by Dr. De Kergaradec, of Paris, who has published a memoir on the subject, the title of which stands at the head of this article.

"From numerous trials made on pregnant women it appears, that by applying the ear to the abdomen, or by means of a stethoscope, the *fœtal* pulsations can be heard as early as the fifth month of pregnancy; and are to be distinguished by their double stroke and great frequency, being from 120 to 160 in a minute. The *placental* pulsations are distinguished by their single stroke, being synchronous with those of the maternal circulation, and attended with a sort of whizzing noise (*souffle*) as is heard in some diseases of the heart and large arterial trunks, and as if the blood was flowing through a very large canal, or many of them at the same time. M. De Lens, a collaborator with the author, thinks that the placental pulsations may be distinguished as early as the third month of pregnancy." p. 205.

A Case of Scald-Head (Porrido Lupinosa.) By JOB HOBHOUSE, M.D. of Greeneville.—This case was successfully treated, after resisting for three or four years the usual remedies, by washing the head every morning with mild soap and water, and afterwards applying, thrice a day, over the diseased part, a warm bread and milk poultice; it was cured in four weeks. The same plan succeeded in two other cases.

A Case in which a Large Biliary Calculus was extracted from the Gall-Bladder by an Operation. By M. LAROCHE, Surgeon, Paris.—A small tumour, red, fungous, and resembling a cherry, beneath the lower edge of one of the ribs and near to the xiphoid cartilage, on examination by the probe, was found to contain a hard substance; a forceps was introduced; the calculus was broken into two fragments and ex-

tracted, and weighed one ounce, three drams, and sixty grains French weight. The wound was filled with lint, and the patient recovered.

Autopsic Examinations of two Cases of Yellow Fever, with Remarks. By Dr. C. C. BATCHLY.—This paper contains nothing new. An account of Dr. Jenner, by Dr. Louis Valentine, is then noticed. A project for an Universal College of Medicine, attributed to Dr. Felix Pascalis of New-York, is detailed. This institution is, perhaps, the most extensive ever contemplated, whether of a political, civil, or ecclesiastical character. It proposes the adoption of an uniform medical nomenclature for the communication of medical facts, &c., and also to make it obligatory on the members to diffuse such useful knowledge as appertains to the branches of medicine and surgery among all civilized nations, &c. The plan is chimerical, and can never be put into practice.

Infirmary for the Treatment of Diseases of the Lungs. By DRs. MANLEY and ANDERSON.—Regular records of the symptoms, progress, and anatomical state of the cases are kept; and of forty persons prescribed for during ten weeks, only one case has proved fatal.

An Out-Door Lying-in Charity, has lately been instituted in New-York, in consequence of the unusual number of still-born children in that city. Male attendants were recommended by the committee appointed to investigate the subject, as the greater number of deaths occurred among those, who had been attended by midwives. The city has been divided into ten districts, and officers appointed, whose duty it is to recommend accoucheurs, both attending and consulting, to administer to the sick.

Extract of a Report of the Committee of the Medical Society of the City of New-York, on an Essay on the Epidemic Yel-

low Fever of New-Orleans, of 1822. By J. L. CHABERT, M.D.

"In the prosecution of the task which Dr. Chabert has imposed upon himself of tracing out the etiology of this Protean epidemic, he relates that he saw the disease suddenly fatal in a man in the hospital, while he was under examination for discharge as a recovered patient. On the other hand, in the midst of many hopeless cases, he can testify to the recovery of some under the operation of the most simple remedies: accordingly he could no longer depend on his own diagnosis and prognosis. He mentions, as an instance in corroboration of this, the case of a girl whom he supposed to be labouring under an ordinary indisposition, when black vomiting and jaundice suddenly supervened. We confess that such facts are rather calculated to promote scepticism than confidence in medical science, especially the singular results of the following cases.

"A man in a state of delirium escaped from his bed, and was, by mistake, pursued as a common thief, shot at, slightly wounded, and taken. He eventually recovered from a most dangerous state of the fever. Another in the same stage of the disease fell into a well, from which he was taken out without much injury, and at the same time found cured of his fever. A lady, after the ineffectual employment of the most approved means, was recovered from a most desperate condition of the disease by the use of electricity. Two brothers just arrived in the city from the north, sickened with the fever, the one of whom soon died, and the other gave himself up to the care of a resident friend, on the condition that he should not be submitted to any regular medical treatment. He accordingly took nothing except a French patent medicine, which Dr. C. represents to have been a poison: and yet the man recovered from the disease. Finally, an adventurous medical man of New-Orleans went to St. Jago de Cuba for the express purpose of trying the effects of blood-letting in this disease. He fully accomplished his purpose, frequently carried the remedy to the extent of pro-

ducing *deliquium animi*, and cured all his patients. Far from approving of these means, or advising any one to resort to such strange and violent measures, Dr. C. believes that they must inevitably endanger, either the sick or the reputation of the physician; nevertheless, he undertakes to theorise on their results, and concludes: 1st, That yellow fever is a disease of irritation excited by miasmatic agents that are raised from the earth or water by great heat.

“2d. That this irritation may produce death before it causes any organic lesion.

“3d. That if the irritation be not timely arrested or checked, it will excite a cerebral or rachidien inflammation.

“4th. That this inflammation of the brain or spinal marrow, is secondarily propagated to the liver, stomach, &c.

“5th. That these secondary inflammations are not characteristic of yellow fever; for he did not find that exclusive attribute in the epidemic of 1821.” p. 226.

Prolapsus Recti is stated to have been cured, by Professor Dupuytren, by excising with a scissors, some of the folds of the internal membrane of the rectum; the healing process contracted and strengthened the tube at the part where it was most relaxed and required support. It succeeded in four cases.

A New Remedy for Hemorrhagy.—Dr. Fenuglio, of Turin, has cured three most violent cases of uterine hemorrhage, by giving one dram of the pulverized leaves of the black muscatelle grape-vine; the leaves should be collected in August, and dried in the shade. Epistaxis has been cured by it, taken as a snuff. Analysis proves that the tannin principle and tartaric acid are the active ingredients.

The number concludes with an account of the diseases of the city of New-York, and its vicinity, during the summer and autumn of 1823, in which there is nothing new.

ART. XI. *The New-England Journal of Medicine and Surgery, for January, 1824.*

Remarks on Burns. By GEORGE HAYWARD, M.D.—The appearances observed in death from burns, and the causes which lead to it, are contradictory, and hitherto inexplicable. When deep seated, death has been attributed to an affection of the internal viscera. Inflammation of the lungs from a suspension of the functions of the skin, when the burn is superficial, has been conjectured to be the cause by Cooper. Sabatier mentions that death has occurred, when the burn was superficial, and not larger than a crown; difficulty of breathing and fever appear, and the danger is very great. In some cases, the lungs are not at all affected; coma, delirium, or diarrhoea, and, when the burn is extensive, the patient dies from prostration and debility. Dupuytren supposes it to arise from an inflammatory affection of the stomach and bowels. With regard to this last cause, we suspect it to be entirely gratuitous, from the circumstance, that the injected state of the vessels of the mucous membrane of the bowels certainly arises in persons who have died suddenly, as from hanging, when they were in perfect health before: in slaughtered animals, the same appearances of inflammation occur, as appears from observations made in this city, (Philadelphia,) and of course, in burns the appearance may be deceptive, and may proceed from the injection of the vessels produced by the power of the arteries.

In some severe burns (continues Dr. H.) where the skin was extensively ulcerated, in Edinburgh, lately detailed by Dr. Cumins, different morbid appearances were discovered. An adhesion of the pleura to the lung in the first; but as there was no difficulty of breathing before death, and the discharges from the burn and the bowels were sufficient to produce that event, this appearance might have proceeded from previous disease. In the second, who died on the sixth day, there was inflammation of the brain and peritoneum,

with bloody serum on the basis of the skull and the cavity of the belly. In the third, the abdominal viscera was inflamed. In the fourth, the peritoneal and mucous coats of the intestines were inflamed almost to gangrene. The peritoneum was also inflamed in the fifth.—These cases prove that these affections should be treated by depletory measures. Dr. Hayward calls the attention of the profession particularly to burns attended with vesicles, where no deep-seated injury has been inflicted, where the patient does well for some days, and where thoracic inflammation appears, and carries off the patient, though the burn was apparently doing well. In a burn upon the face of a child, in extent about six inches ; for four days the burn did well under common treatment, and was rapidly healing ; at the end of that time difficulty of breathing, to a slight degree, came on ; and about the middle of the fourth day, the child was reported to be dying : it lived to the seventh day, taking nourishment till within a few hours previous to death. Difficulty of breathing and great weakness, were the prominent symptoms. On dissection, the lungs were found to be inflamed, which Dr. H. supposes to originate from the suspension of the powers of the skin from the healing of the wound. With regard to the explanation of this phenomenon, he supposes it to resemble erysipelas, which has the same disposition to produce internal inflammations. The surface of the top of the head of a child was exposed to a strong heat, and although the hair was not scorched, a circle of about an inch was severely burned ; the scalp within the circle sloughed, and left the bone entirely bare ; in six weeks exfoliation took place, and the child finally recovered, without any internal inflammation. The effect is therefore by no means constant.

On the Internal use of Spirits of Turpentine in Bowel Complaints of Summer and Autumn. By J. H. FLINT, M.D.—Dr. Flint states, that he has treated with the greatest possible success, diarrhœa, without fever or pain, by spirits of turpentine, administered in the dose of ten drops thrice a

day : painful diarrhoea and dysentery by the same remedy, with bleeding to faintness, the warm bath, and calomel. In cholera of infants, he pursues the same plan, bleeding fearlessly, but according to circumstances.

In dyspepsia, he has used turpentine with the greatest effect, and considers it as an invaluable assistant to the plan recommended by Abernethy by the blue pill. He also states, that in colica pictonum the turpentine had produced the best effects : In one case, the disease existed for years ; during salivation he improved, as it abated the disease returned ; turpentine restored the disordered state of the bowels, and was continued till the patient was perfectly well.

Case of diseased appearance in the Brain, resembling Hydatids. By WILLIAM SWEETSER, M.D.—About two years before, the left eye of this patient (a woman) began to fail, until it became entirely blind ; her head felt confused and uncomfortable, her memory failed, and she was easily affected by slight noises ; her mind continued perfect ; her general constitution had become feeble, and when medical assistance was called, her symptoms were principally dyspeptic. Gradually her mind became gloomy, and at last derangement took place. Two clusters of bodies resembling hydatids were discovered in the lateral ventricles ; they were about the size of a common garden pea, and were about thirty in number.

Case of Aneurism. By Dr. JOSEPH LYMAN.—A case of aneurism, situated about the middle of the thigh, had been increasing for eighteen months, when the tumour was as large as the head of a child, its top sphacelated, and its sides also threatening mortification. The operation was resolved on, and performed by opening the tumour, after securing the artery by the tourniquet. Two quarts of grumous blood instantly rolled out, after the sac was completely divided, and on loosening the tourniquet, it was discovered that the artery both above and below, had been closed by the adhesive pro-

cess. Part of the tumour, on the thirteenth day after the operation, sloughed away, the lips of the wound were approximated by adhesive plaster. On the 18th, a profuse hemorrhage took place, from a vessel penetrating the muscular substance, which had sloughed, and in eighty days the wound was perfectly healed.

Cases of Spotted Fever. By HENRY B. C. GREEN, M.D.—This disease came on with sensations of contusion in the flesh, conjectured to be from falls, delirium, restlessless, nervous symptoms, extreme debility, and marbled state of the skin; the treatment which best suited it was stimulants, opium and æther, blisters made by hot water to the neck, sinapisms, and nourishing diet. The cases were often fatal.

Cases, with Remarks. By Dr. JOHN E. MARSHALL.

Case of Tetanus. By JNO. PHILLIPS, M.D.—This disease was produced, as was supposed by Dr. Phillips, by a carious tooth, and was cured by cicuta, (conium maculatum,) in large doses.

Remarks on Tetanus. By Dr. ABNER HOWE.

Case of Tetanus. By WARREN ABBOTT, M.D.

A Case of Organic Disease of the Uterus; and a Case of Imperforate Hymen. By C. G. ADAMS, M.D.—The uterus contained long irregular tumours: dysmenorrhœa, pain about the uterus and tympanites, were its symptoms. There was nothing peculiar in the case of imperforate hymen.

Reviews are given of a memoir on auscultation applied to the study of pregnancy, an art too much in its infancy, and of too little prospective usefulness, to deserve much attention:—Also, of Pritchard on the Diseases of the Nervous System, which is a valuable book.

On the Scurvy of the Millbank Penitentiary.

Two papers are given on the subject of the tread-mill, as a punishment in prisons. Some physicians state it produces disease: with this opinion others disagree.

Seminal Aura the cause of Impregnation.—Semen introduced into the cup of a funnel, and the pipe thrust into the vagina of a bitch in heat, produced impregnation.

Other articles of foreign intelligence are given, but we do not consider them as sufficiently important to deserve attention, and those which are, will be given at full length in another part of this journal.

ART. XII. *The New-York Medical and Physical Journal.*

THE eighth number of this work commences with a case of osteo sarcoma, in which the lower jaw was removed at the articulation on one side, after tying the carotid artery. By Valentine Mott, M.D. Professor of Surgery in the University of New-York.

The subject of the above case was a negro man from New-Jersey, eighteen years of age.

“At the age of twelve, an enlargement of the lower jaw bone showed itself, about the situation of the second molar tooth of the right side. The tumour gradually increased, dislodging, one after another, the teeth in its neighbourhood. It had several times been opened, but discharged a very small quantity of blood and matter.

“It embraced the lower jaw bone, from the articulation of the right side, as far as the alveolar socket, supporting the first molar tooth of the left. It presented an appearance in size equal to that of his head. In the mouth, it extended completely over the left cheek, carrying the tongue along with it, so that the latter lay flatwise between the tumour and the cheek.”

The first step in the operation was tying the carotid artery of the right side. "An incision was then commenced at the lower edge of the *jugum temporale*, and carried in a semicircular direction over the most prominent part of the tumour, and terminated opposite the first molar tooth of the left side. Another incision of the same form, but of less extent, below this, left a large piece of integument, in which was situated the ulceration. The flaps being dissected from the tumour, the second biscuspis tooth of the left side was extracted, and the bone sawed through at a sound part, with the saw which I had provided for the other cases.*

"Raising with an elevator the bone when sawed through, the diseased mass was cautiously dissected from the tongue, palate, and pharynx, until the joint upon the right side was exposed; the capsular ligament was now divided on the inner side, by which the bone was easily removed from its articulation. In the course of this part of the operation, very little blood was lost, it being necessary only to apply four ligatures."

"The flaps were brought together with several interrupted sutures and adhesive plasters, and the double headed roller being applied, he was put to bed."

"The tumour weighed twenty-two ounces avoirdupois." The situation of the patient appears to have been very flattering until the fifth day after the operation, when he died in "one of his turns of faintness."

A massy deposit of coagulable lymph was found in the anterior mediastinum, having a yellowish hue, and the *exact appearance of pus*, but wanting its fluidity. The pericardium contained a pint of yellow serum, and the lungs exhibited marks of high inflammation throughout their whole extent. Their surfaces were of a *deep purple*, and in some places of a florid hue. No adhesion between them and the sides of the chest was apparent.

* This appears to have been the third case in which Dr. Mott has operated.

Art. 2. On the Teething of Infants, and the complaints to which it may give rise. By J. TRENOR, M.D. Dentist.—The author divides his subject into three parts. In the first, he shows that there exists during infancy a greater predisposition to disease than at any other period; secondly, that at this time there is an exciting cause, unknown to after life, the development of the first set of teeth; and concludes, by noting symptoms and prescribing the treatment best calculated for the case.

Whilst he does not agree with those who contend that dentition, being a natural process, it is impossible that it should be directly or indirectly the cause of disease, he is far from adopting the opposite absurdity, that all complaints at this time of life are attributable to it. He very judiciously takes the stand which we are convinced nine-tenths of the faculty would take with him, the middle ground between these two conflicting parties, and fortifies himself behind the wholesome maxim, "*In medio tutus ibo.*"

The cause of that excessive pain which inflammation of the gums always occasions, our author ascribes to their rigidity and density of structure. In consequence of this, they will not admit readily of expansion; and from their great vascularity, in all probability greater in infancy than in advanced age, their tendency to do so must be much increased—and hence, a continued and increasing pressure upon the nerves, which enter into their composition. He exemplifies the truth of his theory, by reference to the relief procured in paronychia, or any inflammatory affection bound down by tendons or tendinous fasciæ, by a free incision, whereby the stricture upon the nerves is removed, and the expansion of the parts permitted.

The influence exercised by the process of teething upon the stomach and bowels is clearly pointed out; and it is upon this obvious fact the author *principally rests his belief*, that *where these organs of children become deranged, whilst there exists that irritation of the gums which is always present in a greater or less degree during the process of dentition, that*

the latter is the chief source of the former, and that by an early and correct application of remedies for keeping down this local inflammation, constitutional symptoms, to any alarming extent, may with certainty be prevented.

In answer to the objection which may be urged, that if the development of the first set of teeth can have the influence supposed, in occasioning what has emphatically been called *the summer complaint of children*, why have we not as fatal a malady during the winter, the spring, or the fall, since the process of dentition is not confined to any particular season—the author answers, that teething, of itself, is a frequent cause of serious indisposition ; “ if, therefore, so powerful a cause be added to those which in warm weather give rise to cholera morbus and similar affections, in such as have passed the period of dentition, we can be at no loss to account for the general prevalence, the severity of symptoms, and alarming fatality of cholera infantum.”

In this explanation, the Doctor, we think, has rather over-shot the mark, and certainly has not fully answered the objection. It is notorious, that cholera infantum is at no time more prevalent than in the latter part of the spring, and the first of the summer, particularly in the month of June, which amongst adults is always considered a healthy season ; and on the contrary, in the months of August, September, and October, the warmest period of the year, when cholera morbus and other bilious complaints are most frequent, cholera infantum is of comparatively rare occurrence. It must therefore be ascribed to other causes than *those which in warm weather are attended with such serious consequences*, “ *causa latet, sed vis est notissima.*”

As to the treatment, he condemns, with great propriety, the practice advocated by many of rubbing the gums with hard bodies, and asks if an inflammation on the tibia would be fairly dealt with if treated in the same way ? When the inflammation and pain of the gums become considerable, he advises immediate recourse to be had to local depletion—cut down to the teeth if not much below the surface, and if

they are, scarify freely. Great attention should be paid to the nourishment of the child, particularly in summer, and its stomach should never be overloaded. The natural temperature of the skin should be carefully kept up by the use of flannel, and the warm bath be occasionally used, &c.

Art. 3. An account of a Case of Carcinoma of the Uterus.
By JONATHAN EIGHTS, M.D. of Albany, (N. Y.)

Art. 4. Contributions in Obstetric Practice. By WESTEL WILLOUGHBY, M.D. Professor of Midwifery in the University of the State of New-York.

Art. 5. Cases of Cynanche Laryngea, with Remarks. By DANIEL L. M. PEIXOTTO, M.D.—Two cases of the above disease are detailed in this paper, both of which terminated favourably. The first was treated very actively by bleeding, emetics, blisters, diaphoretics, calomel, &c. On the first day the patient lost seventy ounces of blood, and on the fourth from the attack he had lost twenty or thirty. Slight ptyalism was effected on the sixth. The convalescence was very slow. The subject of the above was a young man twenty-three years of age.

The second case was that of a lad of delicate habit of body, aged eight years. He was treated with emetics, blisters, pediluvium, and with calomel and antimonial powders in divided doses.

Dr. P. concludes this paper with many sensible remarks upon the history, nature, and treatment, of cynanche laryngea. We cannot agree with him, however, in opinion, as to the very rare occurrence of the disease, for hundreds of deaths, we have no doubt, attributed to the general term sore throat, might be referred with propriety to this species of cynanche. Authors may define with the nicest accuracy what they conceive to be its pathognomonic symptoms, but they must acknowledge that the lines of difference between this and some other forms of cynanche are so slight, as to

make them at least very obscure, if not entirely imperceptible. We will suffer the reader to judge for himself, by referring to the symptoms as laid down by the author.

1st. "It has in a majority of instances attacked adults." Rather extraordinary, then, that out of four cases, two of which are detailed, and the other two mentioned in this paper, three of them should have occurred in children. This peculiarity, therefore, is doubtful.

2d. "The fauces, tonsils, and pharynx, are in general slightly inflamed." The Doctor here anticipates the difficulty, by saying, this is a symptom it has in common with *cynanche tonsillaris* and *pharyngea*; "but is by no means proportioned to the violence of the symptoms, or adequate to explain the great distress suffered by the patient in deglutition."

3d. "The seat of the pain, and the source of difficulty in swallowing, are referred to the upper part of the larynx, which is moreover tender to pressure." We would ask if these symptoms are very unusual in *cynanche tonsillaris*, and some other affections of the throat?

4th. "The difficulty of deglutition is perhaps the most prominent symptom during the disease, and distinguishes it especially from *cynanche trachealis*. This symptom belongs likewise to inflammation of the pharynx and tonsils, but is sufficiently distinguished from these two diseases, by," &c. We feel bound to protest against this mode of reasoning. The Doctor sets out to give us the *peculiar characteristics* of a disease, and after recording one, tells us this distinguishes it from a second, but is nevertheless common to a third and a fourth. This is not correct. He goes on, then, and tells us it is distinguished from inflammation of the pharynx and tonsils, by

5th. "The laborious respiration." Here again we differ; for we cannot admit that inflammation of the tonsils is never attended with laborious breathing; a striking evidence to the contrary, we have lately had in our own practice. Again, "It is in consequence of this difficulty of breathing,

that it is so frequently confounded with *cynanche trachealis*, to which it undoubtedly bears a strong resemblance"—then it certainly is not a *peculiar characteristic*.

We think we have shown, to any impartial mind, that the symptoms here enumerated as *peculiar characteristics*, are not altogether free from obscurity.

Art. 6. A Case of Malformation of the Heart, with Physiological Remarks. By CYRUS PERKINS, M.D. of New-York, late Professor of Anatomy and Surgery in Dartmouth College.—A child of eleven months had cough, occurring almost at every breath, hurried respiration, anxious countenance, lividness of the lips, nails, and margin of the eyelids. Its temperature was natural; the pulse could scarcely be felt at the wrist. It died. The auricles and ventricles freely communicated with each other. The author, alluding to the imperfection of the theory of animal heat, states that in this case the blood was sent to the lungs by the *ductus arteriosus* which remained open, and was only one third its usual size at birth. This is truly a difficulty.

Art. 7. A proposed Improvement in the Construction of the Catheter. By EDWARD G. COOPER.—“The proposed change consists in having the common form of catheter made of a larger size; this is perforated at the extremity entering the urethra, with a hole about one-third of the diameter of the whole instrument more or less: through this passes a stilet of a size just sufficient to go through freely. In addition to this, the head of the stilet should be enlarged, for the purpose of giving a more convenient hold, and of regulating its position at the head of the instrument. To retain the extremity of the stilet exactly in the aperture of the catheter, two cross bars are attached to the stilet, opposite to the head of the catheter. These form the only change to the instrument, from that of the most common and simple form of catheter.”

The advantages claimed by this arrangement are,—1st, That in ordinary stricture, the stilet will be directly oppo-

site to the centre of the obstruction. 2d, The stilet having been urged through the stricture, the catheter can then, without difficulty, be also introduced. 3d, In case of the passage of the catheter being obstructed, by a fold of the lining of the cushion, its becoming involved with some of the larger lacunæ, or by any misdirection of the instrument, by withdrawing it a little, an opportunity is given for the introduction of the stilet beyond the difficulty, and the catheter then pursues its proper course. 4th, The simplicity of the instrument, in as much as it answers all the purposes of the common catheter, when necessary to use it as such.

We are unable to form a perfect idea of our author's meaning relative to the cross bars attached to the stilet. If the desired end is gained by them, however, they are all sufficient. The plan of the instrument is not altogether original, although we believe its application is. We have in our possession one very nearly of similar construction, for the introduction of caustic. Nevertheless, we are far from condemning it, but think rather that it is entitled to due consideration from the profession.

Art. 8. The History of a Case of Ulceration and Perforation of the Stomach, accompanied with Remarks. By JOHN B. BECK, M.D.—In this case five ulcers were found in the stomach, one of which had penetrated quite through its different coats. No symptom existed during life to authorise the least suspicion of any derangement of this organ. The patient was a female aged sixty years, and laboured under hydrothorax.

Art. 9. Remarks on Inflammatory Dropsy, with a Case.
By EDWARD G. LUDLOW, M.D. of New-York.

Art. 10. A Case of Hydrocephalus, successfully treated. By J. SMITH ROGERS, M.D.—In this case the chief and almost only remedy used was Moseley's solution, in doses sufficient to produce vomiting, given repeatedly. One cathartic ap-

pears to have been given, and blisters were applied to the ankles, neither of which seems to have produced any good effect. The emetics, then, are entitled to all the honour of the victory, as they operated independently, and without the aid of *any other means* whatever, against so *formidable* an enemy.

Art. 11. A Case of Obstinate Constipation, relieved by Injections of Spirits of Turpentine.—By SPENCER WOOD, M.D.—The valuable effects of spirits of turpentine in constipation, administered by the mouth as well as by injection, are now pretty generally acknowledged. But like all remedies, it sometimes fails. Experience has taught us, that the safest and most certain course to be pursued in this disease, is the mercurial.

We have very recently had under our care a violent case of constipation, which resisted not only the most powerful cathartics in general use, but also the oil of croton in six drop doses, and the turpentine by the mouth as well as by injection, and which finally yielded to a slight mercurial action.

An Account of the Yellow Fever, as it Prevailed in the City of New-York, in 1822. By PETER S. TOWNSEND, M.D.

Review of Paris's Pharmacologia, with Additions, &c. By ANSEL W. IVES, M.D.

Annals of the Lyceum of Natural History of New-York.

These works are both deservedly praised.

Under the head of *Medical and Philosophical Intelligence* are noticed, *An Essay on Salt*, by I. Van Rensselaer, M.D. Also, Professor M'Neven's paper on the Onondaga Salt Works.

An extract of a letter from Dr. Eberle, relative to an operation performed by Dr. M'Clellan on an osteo-sarcomatous tumour of the lower jaw. And

An extract of a letter from Dr. L. Ring, on a case of paralysis, cured by scutellaria.

ART. XIII. *The New-York Medical and Physical Journal*
for February and March, 1824.

Observations on Endemic Fever. By DR. ALEXANDER COVENTRY, of Albany.—Facts are given in this paper to prove that putrefying vegetables, as turnips, potatoes, and wood, produce remittent fever. In the instance of the turnips, the family had become so accustomed to the odour, that it was not perceived by them: several cases of fever were produced from this cause, though it occurred in March, when the temperature was on one day near zero, and generally very low. Facts are then adduced to show that the distance to which the effects of miasma extend, is limited; soldiers, a few rods from the shore, escaped at Walcheren, whilst those immediately upon it were attacked, &c. The width of a street often gives security in Rome against the malaria: in consequence he advises, previous to the arrival of the family of the settler on our western lands, that twenty or thirty acres should be cleared, and thus disease will be prevented. In choosing sites for our forts, he observes, that the soldiers should be chosen from the immediate neighbourhood, from their susceptibility to disease, when they come from a northern latitude; for seven-eighths of the British soldiers in the colonies die of diseases from the unhealthiness of the climate. Uncleanliness is an extensive cause of disease; the plague of London, &c. and of the Turkish cities, have always been the result of animal and vegetable putrefaction. Persia is exempt from this scourge, because the inhabitants of that country remove all animal and vegetable remains. Dr. Coventry, though the President of the Medical Society of New York, occasionally is a little too swelling in his diction. Speaking of Dr. Jackson (West Indies,) "From the medical ranks of the universe, a more proper person could not have been selected." The same remark applies to some of our correspondents. It is facts and demonstrated principles which make an essay valuable.

II. Remarks on the *Euphorbia Hypericifolia*. By **WILLIAM ZOLLIKOFFER, M.D.** of Maryland, Corresponding member of the Medical Botanical Society of London, and honorary member of many learned bodies.—The *Euphorbia Hypericifolia* is known by the common appellation of black pursely, milk-pursely, milk-weed, &c. Dr. Z. recommends it in dysentery and diarrhœa; it possesses slightly narcotic and powerful astringent qualities. Half an ounce of the leaves added to a pint of boiling water, makes an infusion, which may be given in the dose of a table spoonful every hour, till the disease is relieved.

Dr. Hosack on the Diseases of the New-York Hospital.—Half a dram of aqua ammoniæ, with eight ounces of rain water, injected thrice a day into the vagina, cured amenorrhœa, of ten years standing. It produced a slight irritation. This is a confirmation of a new practice noticed in our last number, and deserves to be tried more extensively.

Fowler's solution cured chorea. Antimonial ointment rubbed on the abdomen, with blisters on the sacrum, and anodynes, succeeded in the diarrhœa of warm climates. Dr. Hosack disbelieves in the power of saccharum saturni in these complaints, and in hemorrhagies. The astringent power attributed to this remedy, he says, is owing to the opium. With this we disagree, as sugar of lead given in injection without laudanum, succeeds in the latter diseases. Dyspepsia, attended with excessive vomiting, was cured by giving a table spoonful of milk every half hour, and prohibiting any thing else, as advised by W. Hunter. In a few days the patient was entirely restored. The prussiate of iron in intermittents was not successful: the quinine he praises highly. Phthisis, in one case, attended with the expectoration of pus, (half a pint daily) was cured by the inhalation of the fumes of boiling tar, and taking from a pint to a quart of tar water in the twenty-four hours.

The flannel roller applied to the limbs, according to the practice of Dr. Balfour, cured chronic rheumatism. The

antimonial ointment, rendered more powerful by tincture of cantharides, was valuable in the same disease, and when the pained joints were enlarged, or unusually relaxed, the Hungarian plaster succeeded remarkably. Gum ammoniac, dissolved to saturation in the vinegar of squills, and applied by a flannel cloth dipped in it, constitutes this plaster. In the treatment of syphilis, Dr. H. prefers the corrosive sub-limate, without producing salivation.

Arnell's Case of Hydrophobia.—This case was treated successfully by pouring cold water from a pitcher on the face of the patient, for about two hours and a half, during which time the convulsions, which the cold water produced, were continued; the patient then rose, was perfectly calm, walked to the fire, and has had no symptoms of the disease ever since.

Magendie of Paris, succeeded in keeping alive a patient ill of this disease for nine days, by injecting warm water into a vein of the forearm. The symptoms of hydrophobia ceased as soon as the water was injected, but eventually the patient died.

Brown's Case of Varicocele.—This case was cured by tying up the spermatic veins and artery. The obliteration of the spermatic artery for the cure of sarocele, has been practised by M. Maunoir, of Geneva.

Hayes on the Inflammable Springs of Ontario County.—The exhaled gas consists of a mixture of light and heavy carburetted hydrogen gases with fixed air.

Francis on the Vitriolic Emetics in Croup.—Emetics composed of 3ii. of the sulphate of zinc and an ounce of water, and when that did not succeed, of blue vitriol in the same proportions, were given to patients in the last stage of croup, with the happiest effect: the respiration was laboured, the countenance was livid, the extremities were cold, and the approach of death was immediate. The emetic was given

in the dose of a large tea-spoonful every twenty minutes, the membrane formed in the trachea was rejected, and the patient recovered. Three cases are given in which this practice was successful.

Here we beg leave to make a few remarks. As after the period for venesection and other remedies has passed, the patient is usually abandoned to his fate, this practice is most interesting; particularly so as it gives new proofs that the membrane does not always extend into the lungs, and gives encouragement for the success of the operation of bronchotomy, and also for the introduction of the catheter into the trachea, to continue the respiration, when bronchotomy is not permitted. It is a fact not generally known, that the irritation caused by a foreign body introduced into the trachea, continues only for a short time, and therefore renders the use of the catheter quite proper.

Similar doses of sulphate of zinc relieved, in the practice of Dr. Francis, an infant of six months old, to whom laudanum had been given, in an excessive quantity, by mistake.

Half an ounce of the same medicine exhibited in the space of forty minutes, cured an adult in the same case. To another, an ounce of the same medicine was given, after taking three ounces of laudanum, and with the happiest effect.

Nelson's Case of Wounded Nerve.—This disease resulted from bleeding, and was characterized by excessive pain immediately after the operation, and inability to raise the arm; the pain returned at intervals, and was generally better in the fore part of the day. It followed the course of the nerves to the spinal marrow, and was attended with spasms of the muscles of both arms. It affected the stomach with feelings of great distress, approaching nearly to syncope: the pain now continued till three or four o'clock in the morning, and the patient was almost exhausted. A transverse incision, one quarter of an inch above the puncture, cured her, though the pains returned at the accustomed hour in the afternoon, gradually abating till she was well.

Observations on the Varioloid Disease. By J. SMITH ROGERS.—Dr. Rogers's observations go to prove,

“ 1. That vaccination is, in a large proportion of cases, a perfect protection against the small-pox.

“ 2. That where the kine-pock does not *entirely* overcome the variolous contagion, it so far modifies and controls it, that it is only capable of producing a comparatively mild disease, of shorter duration than genuine small-pox, and very rarely proving fatal. Of the cases which have presented themselves to my observation, there has not been one that I have considered alarming.

“ 3. From the reports of the disease as occurring in Great Britain some years since, it would appear that the kine-pock has the advantage over the small-pox, of rendering the secondary attacks, when they occur, milder in vaccinated than in inoculated persons. So far as my experience goes, it is in accordance with these views: I have; however, only seen two or three cases, in which small-pox occurred after small-pox. In one of these, the disease assumed the coherent form; in another, it was decidedly confluent, and as severe a case as I have ever witnessed: in this last instance, the patient not only remembered the fact of small-pox inoculation, but bore a very regular and distinct scar on her arm.

“ 4. That the disease now prevalent among persons who are protected, is small-pox, modified by previous vaccination or inoculation.

“ 5. That the varioloid, or modified disease, is capable of producing genuine small-pox in the unprotected. This appears from the cases which are recorded in the European periodical works, and coincides with my experience in the present epidemic. This fact would show the impropriety of the attempts which have been made to introduce the varioloid inoculation.” p. 74.

The remainder of this number is taken up with reviews, foreign intelligence, and meteorological observations, &c.

ART. XIV. *The Philadelphia Journal of the Medical and Physical Sciences.*

I. *Stearns on Medical Science among the Ancients, &c.*

II. *Serres on a New Division of Apoplexies.* Translated from the French.—This paper shows the error of the prevailing division of apoplexies into serous and sanguineous, by experiment and observation.

In animals, in which blood was effused beneath the cranium, by opening the longitudinal sinus, no apoplectic symptoms took place. A knife introduced into the ventricle, so as to produce effusion in that cavity, afforded the same result: artificial excavations formed in the cerebral substance, in which the coagula of blood made pressure, had no effect. In one instance, pressure was made by thrusting a cork into an aperture made in the brain, yet no apoplexy resulted. He then quotes from ancient authors, cases which show that water, effused both without and within the substance of the brain, produced apoplexy. He subjoins others, from his own observation, to the same effect. Apoplexies, he then states, occur as symptomatic of fever, and are subject to intermissions, a circumstance which could not have taken place, if they were produced by effusion. He then subjoins cases, which prove that he has found coagula of blood of the size of an egg, and of the size of a nut, in the substance of the lobes of the brain without symptoms of apoplexy. He concludes, therefore, that effusion is the effect, and not the cause of apoplexy.

III. *Gregory on Small-Pox, from the English Journals.*—Of this paper we furnish an analysis in our *Analecta.*

IV. *Suelto on the State of Medicine in Spain, after the expulsion of the Arabs.* Translated from the French.

V. A Sketch of the History of Mineralogy. By ISRAEL LEA.

VI. Meigs on the State of the Blood-Vessels in Fevers.—This writer considers fever as the archetype of inflammation, and believes that, as in inflammation, the arteries (adopting the doctrine of W. Philip,) are dilated, so they are also in fever. As his reasoning to support this position, is entirely analogical, we content ourselves with stating the outline of his doctrine.

Simons on the Application of Cold Bath in Fever.—The cold bath was used by Dr. Simons in two cases of bilious fever, with success, after the manner of Dr. Currie, when the heat of the system was above 98°.

Johnson on Oleum Terebinthinæ in Puerperal Fever.—In the first three cases, the turpentine was administered in doses of half an ounce, with the same quantity of castor oil, till the bowels were freely evacuated, and with immediate relief. In the fourth case, the pains of the abdomen were united with an inability to retain her urine or faeces; after trying opium, camphor, and the spirit of nitre in large doses, frequently administered, turpentine was given with the happiest effect, in the dose of a tea-spoonful every two hours, in combination with the camphor and sweet spirits of nitre. In the fifth and sixth cases (uterine hemorrhage, with abortion,) it operated as a purgative.

Harrison's Cases of Bronchitis.—This disease is pleurisy commencing with catarrh, in children; neither in treatment nor symptoms, does the author present any thing new.

Dr. Chapman's Case of Inflammation of the Vein, &c.—This case occurred in a coachman, who, on a journey, was attacked with slight symptoms of pleurisy, which yielded to a very moderate bleeding. He continued his journey; the vein, which had been opened, inflamed, and when Dr. Chapman saw him, the arm was swelled to twice its natural size; the pain and inflammation were excessive, and, on pressure,

matter flowed from the vein : general febrile and nervous symptoms, pain in the side, &c. indicated that the inflammation had extended most probably to the heart.

The indications pursued by Dr. Chapman were to subdue the inflammation, and arrest the pus in its passage to the heart. To effect the first, he used bleeding, blistering the arm, and over the region of the heart—also local bleeding from the temples, with blisters behind the ears, to relieve the delirium in the last stages. To arrest the pus in its passage to the heart, pressure by a bandage and compress, was made a short distance above the puncture. It had no effect upon the case ; the man died, and abscesses were formed along the whole course of the arm to the axilla.

As there are some points of practice detailed in this case in which we cannot agree with Dr. Chapman, we beg leave to make a few remarks, and to state some facts, which appear to have been overlooked.

“ In reflecting on the management of the case,” says Dr. Chapman, “ I have only to regret having confided too much in compression as a means of promoting adhesion. My conviction now is that it will rarely succeed.” When Dr. Chapman was called to this case, pus was flowing from the orifice of the vein ; the adhesive, or first stage of inflammation had passed, and pressure was applied too late to effect the union of the sides of the vein, and thus to arrest the inflammation.

If the indication was to arrest the pus in its passage to the heart, as is stated in another part of the essay, it was also too late, for pus flowed freely from the vein ; the inflammation had extended over the whole arm, which was swelled to twice its natural size, and had gained the heart, as was evident from the pain in the left side ; the means also were inadequate, for the pressure was made a short distance above the puncture, when it should have been applied as near as possible to the axilla. The case, therefore, does not test the use of pressure in a proper manner : that the approximation of the sides of an inflamed cavity might

be successful, is evident from the effect of the process of adhesion in arresting inflammation in the serous membranes lining the cavities of the body, likewise in wounds of the thorax and abdomen, and in ordinary pleurisy: few people in this climate die without having adhesions of the pleura to the lungs, the result of inflammation, which would have extended over their whole surface, and probably terminated in suppuration and ulceration, if the adhesive process had not arrested the inflammation. In treating inflammation of a vein, in the first stage, we think that pressure might be successful. We have entered minutely into this part of the subject, from the danger of the disease, which rarely excites alarm till the adhesive stage of inflammation is past, and the patient is in a dangerous state.

"Distrusting the efficacy of this expedient," continues Dr. Chapman, "if ever I should meet a similar case, I would apply a ligature to the vein: the operation, however, will not often be necessary. Few at least have been recorded; I have met in my researches with only one at all analogous." It occurs more frequently than Dr. Chapman appears to be aware: We subjoin the following references for those who wish to read upon the subject.

Dr. Travers, of Newark, England, relates, in 1818, a case of inflamed vein, which occurred, in 1810, at Bognor; another at Selsea. Mr. Broughton communicates another in Mr. Travers' Essay. Two other cases are related in the same book. One occurred in a case of acute inflammation of the chest; another in a patient who had strangulated hernia.*

With regard to the use of the ligature, which Dr. Chapman proposes as a substitute for pressure, (of which it is only another form,) to relieve this disease, we would remark that it has been frequently fatal by producing it; as the following cases show.

Mr. Travers, in his book published in 1818 in London,

* See Cooper and Travers' Essays.

and of which an American edition has been printed in 1821, mentions that, in the year 1801, it occurred in a woman from the operation for varicose veins, performed in Guy's Hospital; also in the case of a man from the same operation.* Mr. Hodgdon, in his book on the arteries, mentions a case, from the practice of Mr. Freer of Birmingham, in which alarming constitutional symptoms were produced by the application of the ligature, and which disappeared on its removal. On repeating the operation three times afterwards the same results followed. In the last trial, however, the removal of the ligature did not abate the delirium and vomiting, which disappeared only on the sixth day.† Mr. Oldknow relates a case, in the fifth volume of the Edinburgh Medical and Surgical Journal, from the same cause; death was the result. Mr. Travers gives an instance, in which abscesses formed along the course of the vein, as far as the groin; the patient died two months after the operation of tying the vessel. Dr. Stenson, of Bourton, Gloucestershire, relates another from the same operation. Mr. Travers gives an instance of death, from a ligature applied to the femoral vein, in consequence of a small wound in that vessel; and two others from the same cause,‡ and in the same vessel in amputation of the thigh. Mr. Brodie, to obviate this difficulty, has divided the vein, in the operation for varicose veins. Dr. Hartshorne has cut out a piece of the vessel, in order to obviate the danger of the ligature, and with success. With regard to the treatment of inflammation of the vein from bleeding, the antiphlogistic plan and regimen, a blister applied over the orifice, and pressure a few inches above it, with perfect rest of the body and limb, appear to be the most successful remedies; a blister we know has arrested it when applied early. A case (the late Captain Parker) has been

* See Cooper and Travers' Essays, Part I. and II. American edition, 1821, p. 169, *et seq.*

† *Ibid.* p. 176.

‡ See the Essays of Cooper and Travers; Essay on Wounds and Ligatures of the Veins.

recovered, under the care of Dr. W. P. C. Barton, by the use of poultices to the arm, and constitutional remedies, with the exception of venesection, against which the patient protested.

The remainder of this number is occupied with reviews of Dr. Dewees's Essays on Midwifery, of Dr. Pascalis on the danger of interment in cities, Professor Gibson on the Institutes and Practice of Surgery, Dr. Jackson's Eulogium on Dr. Lawrence, and Medical and Physical Intelligence of a miscellaneous nature.

Dr. Dewees's book has been already reviewed in this Journal; Dr. Gibson's treatise is favourably noticed by Dr. Chapman. In justice to Dr. Gibson, and to the interests of medical science, we beg leave to state that the modification of Hagedorn's apparatus for fractures of the thigh, proposed by that gentleman, has been successful in several cases.

Statement of the results of one hundred and forty-eight cases of Small-pox, in the city of Philadelphia. Under the care of DR. MITCHELL, Physician to the Small-Pox Hospital.
“ 47 cases occurred in persons who had been previously affected by the vaccine disease. None of them died.
“ 8 cases occurred in persons previously affected with small-pox—of whom four died, and four recovered.
“ 93 cases occurred in persons who had not had either disease before—of whom 52 died, and 41 recovered.

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“ Of the whole number, 69 were whites, and 79 persons of colour.
“ Two out of the eight persons who had small-pox a second time, took it the first time naturally, or without inoculation.
“ Eight of those vaccinated, were vaccinated during the prevalence of the present epidemic—and some of the mildest cases were in the persons of those who had been vaccinated upwards of twenty years before.
“ This table includes the results only to the 14th of Janu-

ary. We have however learnt that the relative proportions since, in every respect, are pretty nearly the same.

"The record of the Board of Health, up to the present time, shows that little more than three hundred have died of small-pox, and four only of the varioloid disease, whether the last followed variolation or vaccination does not appear. No instance has come within our knowledge of any repetition of attack in the same person, as noticed in Europe.

"It must be deduced from the above facts, whatever may be our reluctance to do it, that vaccination, as a preventive of the *epidemic of this city*, has proved so inefficient as scarcely to deserve to be considered at all in this light. Determining from our own observations we should say, that of any given number of individuals, however perfectly vaccinated, who might be exposed to the concentrated infection, not one-fourth would escape the disease, in some shape or degree—and in this estimate we are entirely supported by Dr. Mitchell and several other of our medical friends. Contemplated in this aspect only, variolation has, we think, a decided and indisputable superiority—in its mitigating influence an equality—though, in every other respect, its disadvantages are incomparably greater and more mischievous.

"In Europe the same distrust of the security furnished by vaccination exists, as appears from many of the recent publications, and more particularly from Professor Thompson's work on Small-pox. To the paper of Dr. Gregory in our present number, we beg leave to refer for some very important and conclusive statements on this subject. It seems now, indeed, to be the creed into which the medical mind every where is fast settling down, that vaccination is chiefly valuable as preserving life, by tempering the violence of small-pox. Even thus limited, its utility is inappreciable, as will appear more conspicuously, when the fact is proclaimed, that nearly one half, according to pretty accurate reports, have died in this city of the epidemic in the unprotected system, and not more than one in the thousand, where vaccination had been received." p. 433.

Experiments, &c. with regard to the Varioloid Disease.
By W. DARRACH.

“ It may not be uninteresting to give the results of a few experiments, which have been made with the matter of the varioloid disease.

“ It was inserted in the arms of two children who had not been inoculated with the cow-pox or small-pox matter. In both of them vesicles were formed which resembled those of the vaccine, until an eruption of fine pimples appeared about it. The most contiguous of these became, one after the other, confluent with the circumference of the vesicle, and gave an irregularity to it which made it resemble the vesicle produced by inoculation with the small-pox. The children were attacked with fever of two days duration, when a varioloid eruption appeared in different parts of the body.

“ Varioloid matter was inserted in the arms of a child who had the year past been vaccinated—and without any other effect than the formation of a vesicle resembling that of the vaccine, which dried up before the sixth day.

“ The genuine small-pox matter was afterwards inserted into both arms of all the above cases inoculated with the varioloid, but without any other effect than a small pustule of a purulent character.

“ I now submit hastily, the results also of some late experiments on vaccination, reserving any discussion on them, or practical application of them, for a future paper.

“ Spurious vaccination has resulted from inoculation with the genuine vaccine, and in individuals free from any cutaneous disease. The scab formed in these cases was that common to purulent sores, irregular, crumbling, and of a yellowish colour.

“ In those individuals, on the contrary, who were or became afflicted with an eruption, the vaccine vesicle lost its ordinary character, and put on that of the existing disease.

“ This happened in the cases of two children, the one afflicted with the porrigo favosa, the other with the porrigo larvalis. In both the vaccine vesicle preserved its usual ap-

pearance until the fifth and sixth day, when the edges of them became irregular, enlarged, and degenerated into the porriginous scab, having at the centre, however, a portion which retained the character of genuine vaccine.

“ By future experiments we shall be able to know the effect of re-vaccination in these individuals—and also to determine whether the above mentioned centre portion of the scab retains the vaccine virus.

“ In three other cases, a spurious character was given to the vesicle by the supervention of the variolous eruption, on the fifth, sixth and seventh days after the vaccination.

“ In one of these cases the edges of the vesicle became confluent with the pustules, which appeared about it more thickly than elsewhere on the patient, and which soon arrested the progress of the centre portion of the vesicle.

“ Several unprotected individuals were inoculated with the centre and outer portions of the scab without any effect.

“ The second of these cases was that of an infant two weeks old, whose mother, vaccinated in infancy, was afflicted with the tuberculated pox. The infant when a week old was vaccinated—the vesicle advanced to the sixth day, when it sickened, and was soon covered with the vesicular small-pox, which immediately arrested the progress of the vaccine vesicle, and altered its appearance. The fluid which it contained three days subsequently, was inserted into the arm of an individual without effect.

“ The matter of the third case has not been used.

“ To the above cases of spurious vaccination may be added several others which appeared in individuals who had the very slight eruptive ailment.

“ The following are some of the results of repeated insertions of the vaccine virus in the same individuals, which will assist us in forming a more accurate opinion of the merits of vaccination.

“ 1. In infants after a successful vaccination, the matter has been again inserted, and invariably without any local effect.

“ 2. In others, on the contrary, the scab has been formed, which, except in its diminished size, did not differ from that produced by a primary vaccination. The size of this scab was generally inversely to the age of the individual. In adults, particularly some of them, the size was fully that of a genuine vesicle of the sixth day. In none of these cases could fever or any other constitutional affection be detected.

“ A third and fourth operation invariably produced the same kind of scab—but of more diminished size. No effect, as yet, has been produced by a fifth introduction of the virus.

“ Unprotected children were inoculated with a scab not larger than a line in diameter, which was the result of a fourth insertion of the vaccine virus in an adult. It produced genuine vaccination in them all except one. In this one, who had sores on the different parts of the body, it produced the common purulent sore.

“ This purulent matter which is always found in the granulated cavity on removing the scab of genuine vaccination, was inserted into the arms of two unprotected children, and produced the genuine vaccination.

“ The genuine vaccine virus was inserted in the udders of four cows—in two of them it produced no effect—in a third a small scab, which was found inefficient on the human subject—but in the fourth the genuine vaccine pustule, exhibiting in its stages no deviation from those in the human species.

“ These cows, and others not operated upon, were inoculated with the small-pox virus, but without effect.” p. 436.

ANALECTA.

1. *Sleigh's operation for the Stone.*—The posterior operation of Mr. Sleigh, is an improvement on the recto-vesical operation of the continental surgeons. “In none of the accounts which we have of the recto-vesical operation, is there any hint made,” says Mr. Sleigh, “of the operation through the intestinum rectum having been performed without dividing the sphincter ani muscle, and prostate gland, which alone constitutes an essential difference between it, and the method proposed in this work; for in the first place, the division of the sphincter ani muscle (as practised in these cases) must vastly augment the sufferings of the patient, and contribute towards a tedious recovery: Secondly, the division of the prostate gland can scarcely be accomplished without wounding one of the excretory ducts of the testicles and vesiculae seminales; and lastly, the passing of the urine through the wound, which could not be obviated in this method of operating, must, as in the lateral one, prevent the wound healing by the first intention (which, when practicable, is an important desideratum in almost all wounds,) and increase the hazard of callous edges, and a urinary fistula. Now, in the method proposed by the author, the sphincter ani muscle is not touched—nothing is divided but mere membranes, which, in a healthy condition, may be said to be *almost* insensible; the vasa deferentia can only be wounded, through the ignorance or awkwardness of the operator: and, lastly, there will be the same probability of the wound healing by the first intention (as the urine is not permitted to pass through it,) as a simple incision in any other part of the body.”

The part of the bladder which Mr. Sleigh divides, “is bounded laterally by the vasa deferentia and vesiculae seminales; superiorly by the *cul-de-sac* of the peritoneum; and inferiorly by the prostate gland, and the union of the seminal tubes,” giving a base of one and a half inches, and a height of two inches. The instruments which he uses are an improved speculum ani or dilating forceps, and a staff with a scalpel seven inches long, and an inch and a quarter broad, protected by a sheath which is retracted during the operation by a spring. Lithotomy forceps of various sizes are employed in extracting the calculi, if not expelled after the incision.

“The state of the constitution having been regulated according to the directions in another part of the work, and an enema administered, the patient is put in the same situation as for the lateral operation. The speculum ani (having lain in a little warm water for some time previously, and then rubbed with a little sweet oil) should be gradually introduced into the rectum; the screw should then be slowly and steadily turned, by means of which its blades are separated, and the power of the sphincter ani muscle overcome. The anus thus opened to a sufficient extent,* (transversely,) the index finger of the left hand should be placed on the posterior edge of the prostate gland, which is the anterior boundary of the part of the bladder to be divided. The scalpel is then to be introduced, and by measuring the knife with the index finger, the length of our incision can be regulated with accuracy, according to our wishes. The staff having been previously introduced into the bladder, will be felt pressing the coats of the viscus against the intestinum rectum. This will be an infallible criterion by which we can judge of the situation for our incision, and of the nature of the substance interposed between

* “We may safely dilate it from two to three inches in an adult.”

the staff and our finger. We can then divide the parts directly on the staff, or by its side. Upon the incision being made, the urine will gush out, and in all probability the stone will be forced out in the same moment. Should the calculus not escape with the urine, the common forceps is to be introduced through the rectum into the bladder, and the stone extracted according to the principles given for the lateral operation.

"The bladder can be washed out by means of a syringe, with a little tepid water. After this, a gum elastic catheter is to be introduced into the bladder through the urethra, and kept in till the adhesive process of inflammation commences, so as to unite the divided surfaces. The patient is to be given an anodyne, composed of about thirty or forty drops of the tincture of opium. He is then to be put to bed, and to be kept lying on his abdomen, till the time above mentioned for removing the catheter. The object I have in view for this last direction must be obvious, namely, to prevent the urine escaping through the incision into the intestine, which would necessarily retard the union of the parts. By observing the above plan, another grand object is accomplished, that of preventing the urine insinuating itself into the cellular substance. In the natural position of the body, that is, lying on the back, the wounded part of the bladder would be the most depending part; consequently, when the body is prone, the part alluded to is placed in the reverse position; the urine dribbling from the ureters will accumulate in the fundus of the bladder, and pass off by the natural channel through the catheter."

Mr. Sleigh, in the other parts of the work, mentions the objections to his method; the advantages of it over the lateral operation; the symptoms of vesical calculus; the preparatory regimen; the history of lithotomy, &c. He sums up the whole with the following conclusion:—

"First, The lateral or present method of operating for urinary calculi is, (independent of the dangers to which it is *exposed*,) invariably, and unavoidably, *from the very nature of the operation*, attended with three great inconveniences, viz. excruciating suffering (Cheselden)—the impossibility of the wound healing soon, (Bell, &c.) it being necessarily kept open for a *length of time*;—and, lastly, the loss of much blood, the only one of the three that does not invariably occur.

"Secondly, The lateral operation is one, when performed, even by the most eminent men, extremely dangerous (Cheselden, Bell, &c.)

"Thirdly, The proposed operation, (the posterior one) is attended with little or no pain; with very little loss of blood; and with the probability, in ninety-nine cases out of a hundred, of the cut being perfectly healed in forty-eight hours.

"Fourthly, These assertions are founded upon natural facts; the parts divided in this operation having been repeatedly wounded with the greatest impunity; and healed remarkably well.

"Fifthly, The objection, 'that the bladder, being frequently in a diseased state from the presence of a calculus, might prevent the healing immediately of the wound, and contribute much towards a fistulous communication between these viscera,' can be most satisfactorily answered; for while it is granted that the bladder is generally diseased while it contains a calculus, and that this might prevent the wound in the *coats of the bladder* directly healing; it is to be recollect, that there is something else *besides the coats of the bladder* divided in this operation, namely, the healthy intestinum rectum; so that the wound in the bladder healing *directly* is but of minor consideration, provided the incision in the intestine be immediately healed, or at least that the communication between the two viscera be obliterated, which is proved will be the case.

"Sixthly, That the lateral operation is extremely liable to certain dangers, viz. violent inflammation, extravasation of urine, and fatal hemorrhage; to which the posterior, or my method, cannot possibly be considered in the one hundredth degree.

"Seventhly, Were there not even facts to corroborate this assertion, the nature of the parts divided in the two operations should be sufficient to convince any person acquainted with them, of its correctness.

"Eighthly, That the peritoneum being considered peculiarly favourable, or predisposed to extensive and fatal inflammation, is a doctrine founded upon an ancient prejudice, and without a single physiological or pathological fact to substantiate it.

"Ninthly, and lastly, That all the objections which have been hitherto advanced against the high operation, the apparatus major and minor, the Merean operation, cutting on the *gripe*, and the recto-vesical operation (as now practised on the Continent) are all effectually obviated by the posterior one."

We think that Mr. Sleigh should have endeavoured to obtain a case or two, in which his method had been tried before he ventured to publish a book; and that he should have copied it out correctly before sending it to press, as we find many inaccuracies in the style. His proposal is certainly ingenious, even if it should not turn out so safe and practicable as he sanguinely hopes.

To render, however, his proposition perfectly intelligible, he has given an engraving of the part to be operated upon, with which he has kindly favoured us, and it will be found as a frontispiece to our present number. The following is

The Explanation of the Plate.

A. The Bladder.	F. The Speculum Ani, or Dilator.
B. The Calculus.	G. The Staff.
C. The Intestinum Rectum.	H. The Prostate Gland.
D. The coats of the Bladder, and Rectum in contact and the part which is divided in this Operation.	I. The Bulb of the Urethra.
E. The Sphincter Ani Muscle.	K. The Scalpel.
	L. The Cul-de-sac of the Perito- neum.

Anderson Quart. Jour. of the Med. Sciences, Jan. 1824.

2. Mr. Langstaff has given the history of a very interesting case of ascites connected with utero-gestation, in a lady, aged 39, pregnant of her 9th child, which was successfully treated by an operation. It was a very critical and serious point, to decide about the seventh month of pregnancy, whether premature labour should be brought on, or the operation of tapping be performed. The first was determined on by consultation, and the liquor amnii, small in quantity, let off. But no symptoms of labour followed, and death seemed fast approaching, when Mr. Langstaff cut down to the peritoneum a little below the umbilicus, and evacuated about twenty-five pints of fluid. Three days after she bore a dead child by an easy natural labour, and in a fortnight was considered out of danger. Mr. Langstaff justifies his bold practice by a case of Scarpa's, given in the first series of this Journal, vol. i. 249.—*Ibid.*

3. *Cursory Remarks on Small-pox as it occurs subsequent to Vaccination.* By GEORGE GREGORY, M.D., &c.—The author of this paper, with the view of showing how far the prevalence of small-pox after vaccination is on the increase, has given, in a table, the total number of admissions into the Small-pox Hospital in ten different years, distinguishing such as occurred after real or presumed vaccination. "From this table it appears, that, in the year 1810, the proportion of cases of small-pox succeeding vaccination to the whole number of admissions, was as 1 in 30; in 1815, as 1 in 17; in 1819, as 1 in 6; in 1821, as 1 in 4; and during the year 1822, as 1 in 3½."

The next subject of interest, to which Dr. Gregory directs his attention, is the influence which the vaccine virus appears to exert over certain effects of the variolous poison, even when it altogether fails to impart a perfect security from its future invasion. Here we are informed—"1st, That vaccination does not appear to lessen the violence, or shorten the duration of the erup-

tive stage of fever, which is generally as severe, and even sometimes severer and longer in its duration, than that of the casual confluent small-pox. 2d, That it does not appear to influence the *quantity* of eruption upon the skin. 3d. That the great power of vaccination unquestionably consists in modifying the *progress of inflammation* in the variolous eruption." Here the effects of inoculation are opposed to those of vaccination. "Inoculation lessens the *quantity*, but does not alter, in the slightest degree, the *progress of inflammation* in that which is brought out. Vaccination, on the other hand, while it does not sensibly affect the *quantity* of eruption, always influences, more or less, the *progress of inflammation*, however copious the eruption may be." 4th, Though vaccination modifies, in a large proportion of cases, the *progress of inflammation* in the skin and throat, "it does not affect the course of the disease when the variolous disease fixes itself on other parts, particularly on the brain. It is in this manner that small-pox, after vaccination, occasionally proves fatal." The author adduces two cases in which cerebral symptoms supervened in the advanced stage of the disorder: the brain, however, on dissection, exhibited no appearance of disease.

Having thus described the manner in which previous vaccination modifies small-pox, Dr. G. next notices the *degree* to which such modification takes place: this varies very greatly. Sometimes the disease is so *highly* modified after vaccination, that it is often confounded with *varicella*, and some other papular eruptions. "On the other hand, the modification is, in some few cases, so *trifling*, as hardly to be perceptible. Between these extremes, every possible gradation has been noticed." "Of the fifty-seven cases of small-pox after vaccination, admitted into the Small-pox Hospital in 1822, forty-four were discharged in perfect health within fourteen days from the period of their admission. There were five fatal cases."

Dr. Gregory considers that small-pox, after vaccination, unquestionably prevails in particular families; showing, that in them there exists some peculiar susceptibility of the variolous poison. This agrees with the observations of various practitioners: several instances, which fully support it, have come under our own observation. We are now attending a lady who has had, within the last two months, four of her children confined with small-pox after vaccination. In them the small-pox was the more modified the shorter the period which had elapsed from the time of vaccination, which had been most satisfactorily performed in all of them, at a period when they were in perfect health, and entirely free from any eruption which might interrupt its effects on the system.

The author of this paper next states, that the great majority of cases of small-pox subsequent to vaccination, which were brought to the Small-pox Hospital, have been persons between the ages of fifteen and twenty-one. Nineteen was the average age of the whole. Dr. G. is more disposed to impute the more frequent occurrence of the disease, at this epoch, to something in the habit of body peculiar to that age, than to the influence of vaccination on the system having been, in some degree, worn out in the progress of life.

Lond. Med. Repos. Dec. 1823.

4. *On the Effects of Stricture of the Urethra, particularly in a sacculated state of the Bladder.* By JOHN SHAW, Esq.—Mr. Shaw commences this valuable paper by stating four interesting pathological facts.

"1st. I have not, in more than a hundred dissections which I have made of diseases of the urethra, seen a stricture or narrowing of the canal, posterior to the ligament of the bulb; nor have I been able to find one example of stricture beyond this part among those preserved in the College Museum."

"2d. In almost every instance where a narrow stricture has existed for some time, in any part of the urethra anterior to the ligament of the bulb, I have found the membranous and prostatic portions dilated to three or four times their natural size."

"3d. The ducts of the prostate, which are naturally very small, are always more or less enlarged when there has been a stricture, or a long continued irritation of the canal."

"4th. When such stricture as causes occasional retention of urine has existed for some years, the bladder is found to be not only thickened, but often at the same time sacculated."

From the first of these it follows, that if our instrument is obstructed at a point posterior to the ligament of the bulb, we ought not to infer a stricture; and hence, both from this and the second, we should not, on meeting with such an obstruction, attempt to push the instrument further in. The third might lead to the inference, that the instrument, if obstructed, had passed into one of the dilated ducts of the prostate, which often form a complete labyrinth. The using force in such cases, though recommended even by Desault, must always be hazardous and improper.

As the healthy urethra becomes suddenly narrow at the bulb, while the curve of the canal suddenly changes, the ligament being higher than the sinus of the bulb, it must follow, in cases of slight inflammation, that spasmotic action will be excited by passing a bougie, the instrument will be obstructed, and lead to the false supposition of a stricture. Besides, when the bougie is obstructed at the bulb, its upper surface may be so cut, or indented, by being pressed against the lower edge of the ligament, as to have exactly the same appearance as that which has been considered as an unequivocal proof of there being a stricture at that point where the instrument has been stopped. Many strictures at the bulb may probably, indeed, have originated in the inflammation consequent upon ineffectual attempts to pass the instrument, while the internal membrane was irritated or inflamed.

Mr. Shaw goes on to infer, that stricture is very frequently followed by a sacculated state of the bladder or prostate, often leading to the disastrous consequences of recto-vesical fistula, bursting of the urethra, and sloughing of the scrotum and penis, peritonitis, irritative fever, and death.

In treating such cases, Mr. Shaw, very justly we think, condemns the instrument invented for dilating strictures, as quite useless in cases of difficulty, for many strictures will not permit any thing thicker than a hog's bristle. In the cases in which the dilator might be used, the common means would be no less successful, and more simple. He advises the operation of cutting through the stricture, introducing a catheter from the glans, and endeavouring to make the urethra entire, by allowing the wound to granulate over the catheter. The operation is easy, the delay of it may prove fatal to the patient—a circumstance of daily occurrence in London; and when the stricture is divided, the principal object is attained. The great difficulty of the operation is the existence of false passages, which may be cut down upon instead of the stricture; and in passing the catheter afterwards into the bladder, we may be misled by other false passages. The worst almost that can happen, is a fistulous sore; but this is known to be much more manageable than spontaneous fistula.—*Anderson Quart. Jour.*

5. *Neuralgia, treated with the Oil of Turpentine.* By M. SEDILLOT.—M. Sedillot, in the name of M. Laroche, read a Memoir on the good effects of the oil of turpentine in *sciatic neuralgia*. The author administered this substance in the dose of a drachm to an ounce of syrup. In several individuals, the cure was speedy and complete, whilst in others a relapse took place; in all, however, relief was experienced. In some, a copious perspiration preceded the appearance of neuralgia.—*Ibid.*

6. *Two Cases of Division of the Symphysis Pubis.* By Dr. MANCHINI, of Naples. (Communicated by Dr. Harrison, of Argyll-street.)—"My friend, Dr. Manchini, professor of anatomy at Naples, has recently divided the symphysis pubis in two cases, in which it had been determined, by previous consultations, that the delivery could not be effected by the natural process. In

both instances the children were born alive, and did well, and the mothers recovered. After the operation, which consisted in a simple division of the symphysis, the patients were put into warm baths, and the further separation of the bones and dilatation of the passages left to the efforts of nature. I know not exactly what time was necessary for this purpose in the first case; but, in the second, the delivery was accomplished eight hours after the operation, when the divided bones were found to have separated an inch and a half from each other. The parietal bones of the child's head overlapped each other very much, and the whole cranium was brought into the form of a cone, from the pressure it had sustained in effecting a passage through the openings, which were still narrow. This deformity afterwards disappeared, and both mother and child did well in every respect.

"In the first case, no re-union of the divided parts took place, owing to their not having been brought into apposition after the delivery; from which circumstance, the power of walking has not been perfectly recovered, but is performed in a *straddling* manner. In the second case, the parts were brought together after the accouchement, and retained in their natural situation by means of rollers properly applied: the bones united, and no inconvenience of any kind was afterwards experienced."—*Ibid.*

7. *Metamorphosis of Vegetables into Animals.* By M. GAILLON.—"It has been ascertained by several Naturalists, that a great number of the *confervæ* are disorganized during the summer, and that the greenish globules, which are seen in their interior, become animalcula, which swim for a certain period in water, are susceptible of irritation on being touched, &c. &c.; and at the end, reunite themselves to form new *confervæ*. M. Gaillon, in his new *Mémoire*, presented to the Institute of France, has made observations, which fully confirm those previously made on this singular order of beings, which seem to destroy all traces of the distinction so feebly marked between the animal and vegetable creation. The species, to which he has applied his researches, is the genus *ceramion* of Decandolle. Dillwyn has described them under the name of *confervæ comoides*. They cover the mud on the sea coast at Dieppe. The corpuscles, which are of a greenish colour, M. Gaillon has observed, leave the filaments of the *confervæ comoides* at frequent intervals, and assuming the form sometimes of an oval, sometimes of a parallelogram, move about slowly or rapidly, and change their direction, like the cyclades and other animals of that class. He has even forced these corpuscles from the filaments before their time, and has observed the same phenomena. M. Mertens, a celebrated botanist of Germany, has made the same observations. Last year he exhibited, to several *savans*, the *confervæ mutabilis*; on the 3d of August, in the state of a plant; on the 5th, disorganized, in the form of molecules, possessing the power of locomotion; reunited on the 6th, in the form of simple articulation; and, on the 11th, constituted again, in their primitive form."—*Ibid.*

8. *Destruction of a Portion of the Spinal Marrow.*—A gentleman, 44 years of age, was the subject. He had led a very debauched life, and at the age of 34, first began to experience pain in moving his arm, attended with uneasy sensations at the top of the spinal column. These symptoms increased, and in January 1815, the use of the member was lost. The dorsal part of the spine now became curved, and the shoulders, particularly the right, raised. Cauteries, moxas, blisters, without benefit. M. Rullier was consulted on the 5th October, 1822, and found the patient emaciated and weak, the size of the head contrasting with the wasted trunk—the spine curved—no loss of voluntary motion, except in the upper extremities. The patient could walk about, even till nearly the period of his death. The arms were permanently and rather painfully contracted—the forearm being in a state of involuntary pronation, the fingers fixed, but more firmly during sleep. Notwithstanding this state, the patient could still write his name by a movement of the whole arm. The hands were morbidly sensible to the *slightest* external impressions, and

the arms painfully so to *forcible* impressions *ab externo*. The intellect was unaffected; but his sleep was disturbed by uneasy respiration, palpitations, and painful stitches in the chest. There was cough and cream-like expectoration—hectic fever—bowels constipated—violent pains in the lumbar region; the breathing very much embarrassed during the febrile paroxysm. The venereal appetite was unimpaired till the last—indeed it appeared to be unnaturally excited. On the 31st October, 26 days after M. Rullier first saw the patient, death put a period to his sufferings.

Dissection.—The body was opened 36 hours after death, in the presence of Magendie, Piedagnel, and Leconteux. The chest and upper extremities were in a state of the most complete marasmus—the legs and feet œdematos. The upper part of the dorsal spine presented a slight salient curvature backwards and to the right, which raised the corresponding shoulder. The rest of the back appeared natural. The brain was sound, but contained much water in the ventricles, which seemed to drain into the spinal arachnoid cavity when the body was raised erect. There was nothing about the cerebellum which indicated the salacity of the patient during life. The cavity of the spine was laid open throughout its whole extent, by removing the spinous processes and plates of the vertebræ. The medulla spinalis suffered no compression, but only contorted itself in conformity with the spinal column in the dorsal region. The arachnoid cavity contained much serosity. The spinal marrow, examined from behind, appeared in its natural state, as far as the fourth pair of cervical nerves. The two inferior thirds of its dorsal portion also seemed sound; but a remarkable alteration presented itself between these two parts, and corresponding to the eighth or ninth pair of nerves. It was soft even to fluidity, so that it flowed about, according to the position of the body. The coverings being slit open over this portion, a quantity of fluid ran off, mixed with flakes of medullary matter. The parts then presented to their view an elongated cavity, filled with a greyish red fluid, in which were dispersed a great number of extremely thin capillary vessels. The medullary bands connected with the corresponding roots of the spinal nerves could scarcely be distinguished in the anterior part of the altered portion. On the anterior face of the spinal marrow, this disorganization was not near so great. The medullary bands corresponding to the reticulation of the origin of the anterior branches of the spinal nerves were apparent, and offered no interruption throughout their whole length, with the exception of the left, which was altered. They were traced throughout the whole extent of the marrow as far as the medullary tissue, whence they derive their origin. The portions of medulla spinalis above and below the part now described, showed nothing worthy of observation.

Dr. Magendie has made many interesting remarks on this curious case. Here, says he, we see a man enjoying, almost to the last hour, great moral energy, powerful generative faculties, a free use of his lower extremities, and *feeling* in the upper ones, yet with the loss of nearly a third of the spinal marrow. The communication between the cerebral and dorsal part of this marrow was apparently only by the investing membranes; for there remained only a thin layer of white substance scarcely two lines in breadth, and that too, very probably, altered in structure. There was, therefore, an almost complete isolation of the superior and inferior parts of the marrow—and that for a space of six or seven inches. Yet the will exercised its influence over the lower extremities—the imagination stimulated the genital organs, and these transmitted to the sensorium the lively emotions of pleasure. The great sympathetic nerve was not, he thinks, the medium of communication between the upper and lower portions of medulla spinalis; for all sections or even compressions of the marrow intercept the determination of the will relatively to the motions, and render the parts which receive their nerves below the point compressed insensible. The thin layer of medullary matter then, and the membranes only remained. The contraction of the upper extremities,

with a continuance of sensibility, deserve to be remarked; for the posterior portions of the marrow, where the sensibility particularly resides, had disappeared from all the pairs of nerves which supply the brachial plexus. Thus the sensibility of the arms could not have had its usual source; viz. that which is connected with the posterior roots. In short, M. Magendie seems at his wits' ends to reconcile this piece of pathology with his former physiological experiments—and, as M. Rullier says, "it is evident that we have still much to learn respecting the functions of the spinal marrow."—*Johnson's Jour. Dec.* 1823.

The thin layer of medullary matter connecting the two parts of the spinal marrow explains the case.—*Ed.*

9. *Bronchocele*.—DR. H. S. Roots, gives a case of bronchocele in a young lady, where the tumour was the size of an orange, successfully treated with iodine, on the plan of Coindet. He began with the formula

R. Potassæ Hydriodat. gr. xxiv.
Ceræ albæ, 3ii.
Adipis Scillæ, 3iss. M.

The size of a garden bean to be rubbed into the tumour night and morning. He afterwards increased the iodine to fifty grains, and gave the tincture of iodine internally, in the dose of twenty drops, twice or thrice a day, as the stomach could bear it. The patient was cured in a few months.—*Med. Chirurg. Trans.* vol. xii.

10. It appears that the Russian remedy (*genista*) broom tops, has failed in curing hydrophobia. The pustules below the tongue have been found by respectable observers, but their cauterization had no effect; the patients died. By reference to Dr. Mease's paper in this Journal, it will be seen that many who are bitten do not take the disease.

11. *Coffee in Pertussis*.—The following preparations of crude coffee, are recommended by Dr. Gottlob Schlegel, as of great efficacy in hooping-cough:

R. P. Semin. crud. Coffeæ Arab. 3ss.
Extract. ejusdem, 3iij. m. fiant pillul. ponderis gr. ij.

From four to eight pills to be taken every three hours.

R. Extract. sem. Coffeæ crudor. 3ij.
Myrrh. aquos. 3ij.
Kali carbonat. 3iv.
Sach. alb. 3ss.
Aq. Menth. ppt.
Cinnamon. simp. 3iij.
Tinct. opii simp. gtt. xij. M.

A table-spoonful to be given three or four times daily. *Neue Materialien für die Staatsärzneywissenschaft*, 1823.

The virtues of crude coffee in pertussis, have been long known and appreciated on the continent of Europe; Rostan, Hufeland, Hocker, and numerous others have employed it with much success. We are not aware that the remedy has been used on this side the Atlantic. The late Professor Barton, in his lectures, was accustomed to consider a strong decoction of this bean as a valuable emmenagogue and expectorant, and commended it highly in asthmas. In this case, it was given two or three times as strong as usually brought to the table, and without sugar or cream.

12. *Employment of the Stethoscope in Fractures*.—M. LAENNEC, in his work upon diseases of the chest, has suggested the importance of his stethoscope to

surgeons, and the advantages to be derived from it in cases of doubtful fracture or stone in the bladder. Dr. Lisfranc has verified, of late, the conjectures made by the discoverer of this instrument. By the aid of the stethoscope, says Mr. Lisfranc, the crepitation in fractures, from the slightest motion, is always distinctly perceptible, however considerable the tumefaction of the part. From numberless experiments made upon the dead as well as living body, Mr. L. does not hesitate to establish it as a general principle, that no cases of doubtful fracture can occur, if we except, perhaps, those of the cranium.

In order to discover the existence of a stone in the bladder, Mr. L. applies the instrument to the pubis and sacrum; if the catheter now be introduced into the empty bladder, which contains no stone, the regular motions imparted to the instrument cause a sound to be emitted not unlike that of an air-pump in action. Where there is a small quantity of urine in the bladder, the sound is like that of saliva agitated in the mouth; but where a calculus is present, the grating of the sound against the stone is very distinct, resembling in some measure the action of a file upon any solid substance. The slightest motion given to the catheter is sufficient to excite this sensation.

M. Lisfranc has applied the same instrument to discover the presence of foreign bodies lodged in the ear, the nasal fossæ, pharynx, œsophagus, rectum, womb, &c. when the ordinary means have proved inefficient.

Archives générales de Medicine, Aout 1823.

MEDICAL INTELLIGENCE.

DR. JOHN WHARTON, of Stevensburg, Virginia, has confirmed, by some late observations, the efficacy of blisters to the back of the neck, in obstinate cases of epistaxis, which had resisted every other means. This practice, though not new, has been too much neglected.

Some rumours have been circulated unfavourable to the utility of the *Actaea Racemosa*, (or black snakeroot, rattletops, &c.) in consumption, as published in a former number. A letter from the consulted physician, Dr. MAY, in the case of James Finch, confirms its efficacy, and induces Dr. Garden, who attended the patient, to believe that the progress of real tubercles were in that case suspended by that remedy.

The varioloid disease has been prevalent in this city, New-York, and Boston. Those subscribers who wish for immediate information on this subject, we refer to the volume of this Journal for 1822, p. 224, to the papers by Dr. JAMESON of Baltimore, Dr. DAVIS of South Carolina, p. 268, Dr. MITCHELL of Frankfort, p. 257, and by Dr. MACAULAY of Baltimore, p. 378.

The Sulphate of Quinine, we learn from the *Gazettes*, has been adulterated with flour in this city.

Dr. J. R. BARTON has cured an ununited fracture of the tibia of 16 months standing, by producing exfoliation by the direct application of the caustic vegetable alkali to the fractured ends of the bone.

Dr. JOHN WALKER, of Madison, Georgia, has communicated to us a case of worms, in a boy aged eleven years, in which spirits of turpentine exhibited in the dose of an ounce, with mucilage and honey, with injections of the same article at the same time, evacuated from the bowels, during the first day, from 550, to 600 lumbrici from four to ten inches in length. The medicine was repeated during the following day, and in an hour after, active catharsis was

produced, and 700 more worms were discharged. It was omitted for two days owing to the weakness of the patient. Cordials and tonics were given, and at the end of that time, it was resumed, and upwards of 600 more were evacuated, after three doses of the medicine—in all nearly two thousand. Tonics and cordials restored the patient to health.

Dr. V. J. GARDEN, of Charlotte, Virginia, has communicated a case of puerperal convulsions, which commenced with a violent pain in the head, for some days previously. A few hours before his visit, convulsions came on, and delivery took place a few minutes before his arrival. The patient was in a profound apoplectic stupor, the pulse slow, full, and bounding; the pupils dilated, and the respiration stertorous. She was bled to 80 ounces and upwards, at three bleedings, and purged freely with jalap and senna given by the mouth, and by tartar emetic by injection. The pulse became soft, and the patient gradually improved. Dr. Garden also applied blisters to the spine, and to the liver, which he found to be diseased. The purgatives were continued, and the patient was restored.

Dr. BENJAMIN P. SMITH, of St. Clairsville, Ohio, has relieved a case of puerperal convulsions by five bleedings, with enemata and purgatives. In this patient, the catamenial discharge did not appear till about the period of conception; no quickening was experienced during gestation, and the lochial discharge continued for three months. After she had recovered from the last convulsion, she complained of pain in the back extending round to the pubis, pains in the thighs, numbness in the legs, with bearing down pains. An examination was made by the vagina, and the mouth of the uterus was found closed during the pains, and slightly dilated during their intervals. It was dilated by the fingers till the hand was introduced, the pains increased with great force, and brought away large lumps of coagulated blood for several hours. The patient began to recover immediately afterwards.

Dr. DARRACH, of the Pennsylvania Eye and Ear Institution, has cured entropium, by pure nitric acid applied with a camel's brush, near the roots of the eyelashes, without the deformity consequent on the operation of extirpation of the tarsi. The same gentleman has remedied the depression of the upper eyelid, consequent on a paralysis of the levator oculi muscle, by the pure nitric acid, applied as above in the course of the wrinkles on the upper eyelid. Its effect was to contract very gradually the skin, and thus raise the lid without the puckering consequent on the operation by actual cautery, or the welt left, by the mode of incision.

UNIVERSITY OF PENNSYLVANIA.

At a Public commencement held in the Hall of the University, on Thursday the 8th of April, 1824, the following gentlemen received the Degree of Doctor of Medicine.

New-York.

Correll Humphrey, On Cynanche Alexander Hosack, Catarrhus Senilis. Trachealis.

New-Jersey.

Furman S. Cook, Hepatitis.	William S. Hendrie, Humid Tetter.
Ephraim Lloyd, Gonorrhœa.	Anthony Keasbey, Cantharides.
William S. Bowen, Hepatitis.	Samuel L. Howell, Miasmata.
Jacob Hunt, Cold Applications.	Charles Ridgway, Fever.
Hosea Fithian, Dysentery.	

Pennsylvania.

William S. Wallace, Remittent Fever.
James Webster, jr. Medical Jurisprudence.
Wilson Jewell, Nux Vomica.
Philip Peltz, jr. Cholera Infantum.
Richard Gregg, Intermittent Fever.
Chandler R. Gilman, Hydrothorax.
William C. Brewster, Mod. Oper. of Medicines.
John C. B. Standbridge, Fluor Albus.
Fisher Snow, Intermittent Fever.
John P. Lewis, Acute Hepatitis.
George N. Eckert, Sal. Cinch. Intermittent Fever.
Charles B. Jaudon, Clinical Practice.
Lewis Horning, Feb. Inf. Remittens.
Charles Henry Rohr, Sal. Cinchon.
William S. Helmuth, Anasarca.
John Emerson, Dysentery.
William A. Irvine, Secale Cornutum.
Isaac Remington, Inflammation.
Charles Wayne, Bilius Fever.
Alexander Speer, Fever of Adams County.
Casper Wistar, Intermittent Fever.
John Purves, Hydrothorax.
John T. Huddleson, Oleum Terebinthinae.
Daniel C. Pfeiffer, Enteritis.
Samuel Thompson, Arum Triphyllum.
Erasmus Thomas, Fractures of Os Femoris.
Daniel High, Dysentery.
Robert Taylor, Intermittent Fever.
John Banks, Muriate of Gold.
George B. Taylor, Apoplexy.
William Cox Poole, Croup.
Richard Town, Cynanche Trachealis.
James Porter, Acute Hepatitis.

Delaware.

James Couper, jr. *De Morbis Oculorum.*
Cuthbert S. Green, Hydrocephalus Acutus.

Maryland.

Eldred W. Mobberley, Hepatitis.
Levi Dent, Tetanus.

John Chew Thomas, Gastritis.
Greenberry Ridgely, jr. Dysentery.

Virginia.

Richard Kennon, Pneumonia Typhoides.
Jonathan P. Gilliam, Apoplexy.
John Fisher, Leeches.
Philip G. Randolph, Angina Pectoris.
John Paterson, Remittent Fever.
Nimmo Morriss, Pleuritis.
Edwin A. Morrison, Diseases of Liver.
George C. Scott, Dysentery.
Alfred T. Magill, Hæmoptysis.
Warner Briscoe, Secale Cornutum.
James H. Gilliam, Peritonitis.
James Tompkins, Charcoal.
John R. Stone, Pneumonia.

James L. Hollady, Liriodendron Tulipifera.
Mathew Page, Dysentery.
Alexander Jackson, Cold in Fevers.
Livingston Waddell, Authority of Names.
Thomas W. Meriwether, Hepatitis.
Alexander B. Cralle, Gastritis.
Chastain Cocke, Dysentery.
William D. Knox, Gastritis.
David Hunter, Mercury.
Robert A. Lacey, Gonorrhœa.
George Williamson, Cholera Morbus.
Caleb B. Matthews, Ether Inhalation.
Edward Hatton, Hepatitis.

North Carolina.

Edmund C. F. Strudwick, Stethoscope.
John Arrington, Ascites.

John Haywood, Typhus Fever.
James R. Glenn, Trachitis.

South Carolina.

John I. Myers, Cholera Morbus.
George W. Pressley, Tela Arane.
Joseph Warren, Hydrophobia.
Elias Horlbeck, Hepatic Phthisis.
Joseph S. Inglesby, Pneumonia.

Roderick M. Taliaferro, Bilius Fever.
Saml. Benj. Rush Finley, Bilius Re-mittent.
Alexander McDowell, Generation.
John T. Pratt, Dysentery.

Georgia.

Philip Minis, Yellow Fever.
 Ransom Tuggle, Scilla Maritima.
 James B. Peterson, Fluor Albus.

Joseph W. Grimes, Malignant Fever
 William P. Hort, Diabetes Mellitus.
 James T. Hay, Bilious Fever.

Ohio.

Squier Littell, Inflammation.

W. E. HORNER, M. D. *Dean.*

TRANSYLVANIA UNIVERSITY.

MEDICAL DEPARTMENT.

At a public commencement, held in the Chapel of Transylvania University, on Monday the 15th March, 1824, the degreee of *Doctor of Medicine* was conferred on the following candidates, who had previously written, and submitted to the examination of the President, Trustees and Medical Faculty, an Inaugural Thesis on the several subjects annexed to their names.

William Rowley Jennings, Kentucky, on Uterine Hemorrhage.
 John H. Wallace, Kentucky, on Life.
 G. T. Ratrie, District of Columbia, on Teeth.
 William Jefferson Baker, Kentucky, Scarlet Fever.
 John Lewis Price, Kentucky, Bilious Remitting Fever.
 William Kell, Illinois, *Vis Medicatrix Naturæ*.
 Uriah Jordon, South Carolina, Blood.
 James White Stevenson Frierson, Tennessee, Influence of Fashion on Female health.
 John Rochester Moore, Kentucky, Dyspepsia.
 Ewing Thomas Stewart, Ohio, Vitality of the Blood.
 Richard Eggleston Farrar, Kentucky, Bilious Inflammatory Fever.
 Allen Gillespie, Tennessee, Dysentery.
 Alexander Cochrane, Kentucky, the abuse of Mercury.
 John Tarleton, Kentucky, Bilious Remittent Fever,
 Willis Hodges, Kentucky, Dysentery.
 Joel C. Frazer, Kentucky, the disease vulgarly called Milk sickness.
 Augustus Davis, Kentucky, the Epidemic of the last season.
 John Shackleford, Kentucky, the Epidemic Fever of 1823.
 George A. Bedford, Tennessee, Yellow Fever.
 David McFall, Kentucky, Modus Operandi of Marsh Miasmata.
 Thomas Sanders, Virginia, Cholera Morbus.
 Joseph Smith Carter, Ohio, Endemic called Milk sickness.
 Lewis Franklin Owens, Kentucky, Cholera Infantum.
 James Patillo Thomas, Mississippi, Epidemic Fever of Wilkinson county, (Miss.) of the summer 1823.
 James Fowler, Indiana, Epidemic of 1822-23 of Indiana.
 Robert O'Brien, Kentucky, Cynanche Trachealis,
 Robert Lego Nuttall, Kentucky, Cholera Morbus.
 Grey Warwick Wright, Kentucky, Endemic sick stomach of particular situations in the Western country.
 Alexander Humphreys, Kentucky, Epilepsy.
 Kirker McCague, Ohio, Bilious Remittent Fever, Ross County, Ohio.
 Eaton Kittridge, Mississippi, a cursory account of the causes of Yellow Fever, as it appeared in Warrenton in 1819, and Natchez in 1823.
 Robert Frazer, Kentucky, Intermittent Fever.
 Edward Carroll, Kentucky, Repletion from luxurious living.

James R. Mendenhall, Indiana, Bilious Remittent Fever.
Jacob Shepherd Kirby, Ohio, Bilious Remittent of Ohio, as it appeared in Hillsborough in 1823.
Ionan Hathaway, Jr. Kentucky, Constipation of the studious and sedentary.
William Adams, Kentucky, Amenorrhœa.
James Manlove Mason, Ohio, Convalescence.
William Fleming Russell, Kentucky, Billious Remittent Fever of 1822, Louisville, Kentucky.
Greenleaf Norton, Ohio, Infantile Remittent.
Achilles Edwards, Kentucky, Emetics.
Willis Marshall Green, Kentucky, Vitality of the Blood.
Christian Wallace, Kentucky, Sympathy.
James Porter Shropshire, Kentucky, Cholera Infantum.
Edward Mead Patterson, Kentucky, Gestation.
Edward Pickett, Illinois, Miasmata.

UNIVERSITY OF THE STATE OF NEW-YORK.*Annual Medical Commencement in the University of the State of New-York.*

Agreeably to the ordinances of the honourable, the Regents of the University, the Annual Commencement of the College of Physicians and Surgeons in this city, was held on Tuesday, the 6th of April, inst. The degree of *Doctor of Medicine* was conferred by the President of the Institution, Dr. Post, on the following gentlemen, who had been Students of the College, had undergone the several examinations required by its laws, and publicly defended their respective inaugural dissertations. After the candidates were vested with their academic honours, the President delivered a *charge* to the graduates. The exercises of the day commenced and closed with prayer, by the Rev. Dr. UPFOLD.

Nova Scotia.—William B. Webster, on the Hip Joint.

Massachusetts.—Clarke Wright, on the Digestive Organs.

Rhode-Island.—James D. Peckham, on Dysentery.

New-York.—Augustus A. Ade, A. B. on Gunshot Wounds. Henry I. Anderson, A. M. on the Laws of Chemical Combination. De Witt Birch, on Diarrhœa. Cornelius R. Bogart, A. B. on Anthrax. John Cole, on Infantile Remittent Fever. Edward C. Cooper, on the Absorbents. John Clapp, on Dysentery. Amos W. Gates, on the Influence of the Mind on Diseases. Rensselaer Gansevoort, A. B. on Leprosy. William A. Hunter, on the Mind and Body. Frederick G. King, A. B. on the Nervous System as known to the Ancients. Howard Lee, on Consumption. William S. Lobdell, on the Modus Operandi of Medicines. Philip E. Milledoller, A. B. on Empiricism. Washington Murray, A. M. on Morbus Coxarius. Robert Maclay on Anatomy. John R. Rhinelander, on Typhus Fever. Giles M. Richards, on Diabetes. Archelaus G. Smith, on Morbid Sympathies. Richard T. Underhill, on Sulphate of Quinine. William W. Verplanck, A. B. on Antimony. George Wilkes, A. B. on Diabetes. Abraham V. Williams, on the Absorbents.

New-Jersey.—Joseph C. Arnold, on Hereditary Diseases. George R. Chetwood, on Trachitis. Joseph B. Jackson, on Hernia. John A. Pool, on Urethritis. Hatfield Smith, on Compound Fractures.

Pennsylvania.—Samuel Carey, on Intermittent Fever.

Delaware.—James S. Rumsey, A. B. on Dyspeptic Phthisis.

Virginia.—La Fayette Brown, on the Magnolia Glauca. Rolling Jones, on the Influence of the Mind.

North Carolina.—Hugh Ferriar, on Diseases. Bucknor L. Hill, on Angina Pectoris. William R. Minor, on Marsh Miasmata.

South Carolina.—Charles F. Godbold, on Phlegmasia Dolens. Robert M. Gourdine, A. B. on Cantharides. William S. Johnson, on Hepatitis. Frederick B. Tudor, on the Physiognomy of Disease. J. S. McLeod, on Otitis.

Ohio.—Jonathan J. Tod, on Puerperal Fever.

Mississippi.—George C. Ferguson on the Humulus Lupulus.

MEDICAL SOCIETY OF THE STATE OF NEW-YORK.

The Society met, according to the statute of the State, at the Capitol in the city of Albany, on the 3d of February 1824. The following gentlemen took their seats as Delegates from their respective County Societies, viz.

DR. ALEXANDER COVENTRY, Oneida, President.
— JOHN H. STEEL, Saratoga, Vice President.
— CHARLES D. TOWNSEND, Albany, Secretary.
— JONATHAN EIGHTS, Albany, Treasurer.
— LAURENS HULL, Oneida.
— T. ROMEYN BECK, Albany.
— WILLIAM BAY, Albany.
— PETER WENDELL, Albany.
— HENRY L. VAN DYCK, Columbia.
— TRUMAN B. HICKS, Warren.
— HENRY VAN HOVENBURGH, Ulster.
— DANIEL AYRES, Montgomery.
— ERASTUS D. TUTTLE, Cayuga.

DR. GAMALIEL H. BARSTOW, Tioga.
— ABRAM ALLEN, Washington.
— E. WALLACE, Westchester.
— CORNELIUS H. VAN DYCK, Schoharie.
— STEPHEN TODD, Herkimer.
— JAMES R. MANLEY, New-York.
— JOHN B. BECK, College of Physicians and Surgeons, New-York.
— RALPH P. ALLEN, Clinton.
— THOMAS SPENCER, Madison.
— ROYL ROSS, Chenango.
— JOHN L. CLEVELAND, Yates.
— HORATIO ORVIS, Jefferson.
— ELIEL T. FOOTE, Chautauque.
— JOHN VAN NAME, Rensselaer.
— AMOS BOTSFORD, Greene.

Among other subjects of importance submitted to the consideration of the Society, we look upon the establishment of annual prize questions, as not the least interesting. The questions for the present year are—

1. *The History, Causes, and Treatment of Hooping Cough.*
2. *The remote and exciting causes of Phthisis Pulmonalis.*

The following regulations were at the same time adopted by the Society:

1. That in treating of the diseases mentioned above, it be required that particular attention be paid to their history, nature, and causes, in this state.
2. That the prize offered be in each case *fifty dollars*.
3. That the Secretary give public notice of the subjects offered, on or before the 1st of March next.
4. That the Dissertations offered for premiums be forwarded to Albany, on or before the 1st of January, 1825. That they be accompanied with a sealed paper, containing the name of the author, and that this sealed paper, as well as the Dissertation, be endorsed with the same motto, in order that the name of the successful author alone may be ascertained.
5. That _____ be a committee to examine and report on the Dissertations that may be presented.

6. That it be understood, that the Society is at liberty to dispense with the adjudication of any premiums, provided the Dissertations presented to the committee may not by them be deemed worthy.

Several applications for the incorporation of additional Medical Colleges in this State having been presented to the Regents during their present session, we are much gratified to find that the Society turned its attention to this important subject, and adopted the following resolution, viz.

“Resolved, That in the opinion of this Society, the increase of Medical Colleges in this State is not required for the public good, and that it would be decidedly injurious to the best interests of the profession at present, to charter any additional medical schools.”

This resolution was transmitted to the Regents, and we are happy to add that, since that time, that honourable body has rejected all the applications made to them. After this very decided expression of opinion on the part both of the Regents and the profession, we sincerely hope that we shall not very speedily have this subject again agitated. We have already two highly respectable Medical Institutions in this State, abundantly sufficient, we conceive, for all our wants. If we wish them to maintain the character which they have at present acquired, we shall be extremely cautious how we increase their number.

The following are the officers for the ensuing year:

DR. ALEXANDER COVENTRY, Oneida, President.
— JOHN H. STEEL, Saratoga, Vice President.
— CHARLES D. TOWNSEND, Albany, Secretary.
— JONATHAN EIGHTS, Albany, Treasurer.

Censors.

DR. FELIX PASCALIS,
— JAMES R. MANLEY,
— CHARLES DRAKE,
— WILLIAM BAY,
— T. ROMEYN BECK,
— PETER WENDELL,
— ABRAM ALLEN,
— DANIEL AYRES,
— TRUMAN B. HICKS,
— LAURENS HULL,
— E. D. TUTTLE,
— LUTHER GUITEAU,

Southern District.
Middle District.
Eastern District.
Western District.

College of Physicians and Surgeons of the Western District, New-York.

From the circular of this institution it appears that the number of students, during the past session, amounted to ninety-six. The degree of *Doctor of Medicine* has been conferred on the following young gentlemen.

John R. Brown, on the Nervous System.

John B. Crouse, on the Causes of Disease.

Daniel Ely, on Perspiration.

Isaac Freeman, on Sulphureous Waters.

James F. Johnson, on the Diarrhoea of the army at Sackett's Harbour in 1814.

Benjamin Miller, on Dysentery.

William W. Weber, on the Modus Operandi of Medicines.

Menzo White, on Coxalgia.

OBITUARY NOTICE.

DIED, at his house in the county of Brunswick, and state of Virginia, on the 5th of September 1823, in the 35th year of his age, and in the meridian of his usefulness and of his fame, DR. JOHN L. MILLER. In his profession, he possessed talents of the first order. Disdaining the trammels and dogmas of the schools, with a mind strong and original, he boldly thought, judged and decided for himself. Possessed of all those social virtues, which command the esteem of the good and the wise, he was distinguished for benevolence and humanity: In his intercourse with his elder Brethren he was candid, dignified and honourable; to the young he was kind, attentive and communicative, delicate and sparing in his censures. His life was a blessing to the society in which he lived, and his death has produced a chasm, which will not be easily filled. A friend who knew him well, pays this last tribute of regard to his virtues and talents, so worthy of the emulation of the living.

Statement of Deaths in the City and Liberties of Philadelphia, from the 1st of January, 1823, to the 1st of January, 1824, specifying their Sexes, Ages, and Diseases.

Deaths in each Month.	Adults.	Children.	Total.	AGES.			
				Under From	1 1	Year, to 2	1082 401
January,	186	128	314		10	to 15	81
February,	158	96	254		15	to 20	151
March,	122	85	207		20	to 30	537
April,	177	113	290		30	to 40	536
May,	116	94	210		40	to 50	462
June,	160	210	370		50	to 60	312
July,	183	303	486		60	to 70	214
August,	205	290	495		70	to 80	137
September,	279	272	551		80	to 90	76
October,	235	222	457		90	to 100	24
November,	240	205	445		100	to 110	3
December,	305	216	521		110	to 120	1
<i>Totals,</i>	<i>2366</i>	<i>2234</i>	<i>4600</i>		<i>Total,</i>		<i>4600</i>

The above mentioned Deaths were caused by the following Diseases and Casualties, viz.

Aphtha,	-	2	<i>Brought forward,</i>	-	-	1236
Angina Pectoris,	-	5	<i>Cachexy,</i>	-	-	1
Maligna,	-	1	<i>Coma,</i>	-	-	1
Atrophy,	-	27	<i>Child-bed,</i>	-	-	8
Apoplexy,	-	54	<i>Cephalalgia,</i>	-	-	1
Abcess,	-	17	<i>Debility,</i>	-	-	282
Asthma,	-	7	<i>Decay,</i>	-	-	17
Aneurism,	-	2	<i>Dropsy,</i>	-	-	81
Burns,	-	16	<i>in the head,</i>	-	-	147
Bronchitis,	-	2	<i>of the breast,</i>	-	-	47
Consumption,	-	536	<i>Diarrhoea,</i>	-	-	110
Convulsions,	-	214	<i>Dysentery,</i>	-	-	187
Cancer,	-	19	<i>Dyspepsia,</i>	-	-	7
Colic,	-	7	<i>Drunkenness,</i>	-	-	34
Cholera,	-	265	<i>Drowned,</i>	-	-	40
Catarrh,	-	26	<i>Death by the cold,</i>	-	-	2
Contusion,	-	6	<i>by violence,</i>	-	-	1
Casualties,	-	17	<i>by laudanum,</i>	-	-	3
Caries,	-	3	<i>Drinking cold water,</i>	-	-	2
Compression of the brain,	-	1	<i>Diabetes,</i>	-	-	1
Concussion of do.	-	1	<i>Disease of the hip joint,</i>	-	-	1
Constipation of the bowels,	-	1	<i>of the liver,</i>	-	-	1
Congestion,	-	6	<i>of the heart,</i>	-	-	4
Cynanche,	-	1	<i>of the prostate gland,</i>	-	-	2
<i>Carried over,</i>	-	<i>1236</i>	<i>Carried over,</i>	-	-	<i>2216</i>

<i>Brought forward,</i>	2216	<i>Brought forward,</i>	3618
Effusion of the brain,	2	Inflammation of the pericardium,	1
— of the lungs,	1	— spleen,	2
Epilepsy,	14	— uterus,	1
Eruptions,	6	Jaundice,	5
Erysipelas,	24	Locked jaw,	14
Fever,	165	Lethargy,	1
— bilious,	115	Measles,	156
— typhus,	234	Mania-à-potu,	31
— remittent,	138	Old age,	74
— intermittent,	60	Palsy,	39
— nervous,	9	Pleurisy,	13
— hectic,	3	Prolapsus ani,	1
— scarlet,	11	Poisoned,	1
— puerperal,	23	Rheumatism,	5
Fracture,	10	Scirrhous uterus,	2
Fungus hæmatodes,	1	Suffocation,	1
Found dead,	24	Spina bifida,	6
Gout,	3	Suicide,	6
Gangrene and mortification,	45	Spasms,	5
Hanged,	1	Stone,	1
Hydrophobia,	1	Stricture,	1
Hernia,	2	Syphilis,	6
Hives or croup,	67	Sudden,	60
Hooping-cough,	79	Sore throat,	35
Hemorrhage,	25	Scrofula,	11
Insanity,	17	Small-pox, <i>natural</i> ,	160
Inflammation of the lungs,	108	Still-born,	228
— bowels,	71	Thrush,	2
— liver,	37	Tumours,	4
— brain,	46	Teething,	10
— stomach,	21	Ulcers,	5
— breast,	20	Worms,	14
— bladder,	3	Wounds,	2
— kidneys,	2	Unknown diseases,	79
— peritonæum,	14		
		Total,	4600
<i>Carried over,</i>	3618		

Of the above mentioned deaths there were,

Males of twenty years, and upwards,	-	-	1329
Ditto, under twenty years,	-	-	1110
			— 2439
Females of twenty years, and upwards,	-	-	1031
Ditto, under twenty years,	-	-	1032
			— 2063
Children, principally under one year, whose sex is unknown,	-	-	98
			—
<i>Total,</i>	-	-	4600

Of the foregoing deaths, 641 died in the Alms House, and 800 were people of colour.

Agreeably to the returns received at the Health Office from *one hundred and eleven* practitioners of midwifery, there were born in the city and liber-

ties of Philadelphia, from the 1st of January to the 1st of December, 1823, both days inclusive,

Male children,	-	-	-	-	-	2977
Female ditto,	-	-	-	-	-	2836
Making the total number of births,	-	-	-	-	-	5813
The whole number of deaths,	-	-	-	-	-	4600
Difference between the births and deaths,	-	-	-	-	-	1213

By order of the Board of Health,

JOSEPH PRYOR, Clerk.

HEALTH OFFICE, Jan. 30, 1824.

Statement of Deaths in the City of Baltimore, from the 1st of January, 1823, to the 1st of January, 1824, specifying their Sexes, Ages, and Diseases.

Deaths in each Month.	Males.	Females.	Total.	AGES.			
				Under From	1 1	Year, to	474 200
January,	58	38	96				
February,	73	48	121				
March,	85	64	149				
April,	95	65	160				
May,	48	65	113				
June,	131	101	232				
July,	131	122	253				
August,	149	121	270				
September,	135	140	275				
October,	87	84	171				
November,	62	67	129				
December,	77	62	139				
Totals,	1131	977	2108	Total,	-	2108	

The above mentioned Deaths were caused by the following Diseases and Casualties, viz:

Ague, dumb,	-	-	1	Brought forward,	-	-	741
Apoplexy,	-	-	12	Dropsy,	-	-	37
Asthma,	-	-	5	Drowned,	-	-	41
Burn,	-	-	5	Dysentery,	-	-	46
Casualties,	-	-	23	Erysipelas,	-	-	2
Child-bed,	-	-	28	Exposure,	-	-	1
Cholera infantum,	-	-	253	Fever, bilious,	-	-	137
Colic,	-	-	2	catarrhal,	-	-	18
cramp,	-	-	4	inflammatory,	-	-	2
bilious,	-	-	3	intermittent,	-	-	5
Consumption,	-	-	236	nervous,	-	-	9
Convulsions,	-	-	60	putrid,	-	-	1
Croup, or hives,	-	-	52	remittent,	-	-	1
Debility,	-	-	1	scarlet,	-	-	1
Decay,	-	-	56	typhus,	-	-	148
<i>Carried over,</i>	-	-	741	<i>Carried over,</i>	-	-	1190

<i>Brought forward,</i>	-	-	1190	<i>Brought forward,</i>	-	-	1611
Frost-bitten,	-	-	1	Pleurisy,	-	-	34
Gout,	-	-	1	Poisoned,	-	-	1
Gravel,	-	-	1	Quinsy,	-	-	6
Heeves,	-	-	1	Rheumatism,	-	-	8
Hemorrhage,	-	-	1	Scrofula,	-	-	1
Hydrocephalus,	-	-	38	Scurvy,	-	-	1
Inflammation of the brain,	-	-	15	Shot,	-	-	1
— of the breast,	-	-	5	Small-pox,	-	-	*2
— of the bowels,	-	-	6	Still-born,	-	-	105
— of the lungs,	-	-	1	Sudden,	-	-	19
— of the throat,	-	-	4	Suicide,	-	-	5
Insanity,	-	-	5	Syphilis,	-	-	3
Intemperance,	-	-	25	Teething,	-	-	13
Jaundice,	-	-	1	Thrush,	-	-	6
Liver complaint,	-	-	17	Tumour,	-	-	1
Locked jaw,	-	-	1	Typhoides pneumonia,	-	-	31
Mania,	-	-	1	Unknown adults,	-	-	42
Marasmus,	-	-	23	Unknown infants,	-	-	159
Measles,	-	-	175	Visitation of God,	-	-	9
Mortification,	-	-	15	Violence,	-	-	1
Murdered,	-	-	3	Hooping-cough,	-	-	34
Old age,	-	-	69	Worms,	-	-	15
Palsy,	-	-	11				
Phthisic,	-	-	1	Total,	-	-	2108
<i>Carried over,</i>	-	-	1611				

Of the deaths above enumerated, 650 were people of colour.

By order of the Board of Health.

EDWARD P. ROBERTS, Secretary.

BALTIMORE, January 1, 1824.

Statement of Deaths in the City and County of New-York, from the first of January, 1823, to the first of January, 1824. Specifying their Sexes, Ages, and Diseases.

<i>Deaths in each Month.</i>	<i>Adults.</i>	<i>Children.</i>	<i>Total.</i>	<i>AGES.</i>			
				<i>Under</i>	<i>1</i>	<i>Year,</i>	<i>879</i>
	<i>From</i>	<i>1</i>	<i>to</i>	<i>2</i>	<i>315</i>		
January,	153	84	237				
February,	122	102	224				
March,	131	120	251				
April,	146	107	253				
May,	143	92	235				
June,	105	100	205				
July,	139	243	382				
August,	181	264	445				
September,	173	188	361				
October,	157	173	330				
November,	134	112	246				
December,	157	118	275				
<i>Totals,</i>	1741	1703	3444	<i>Total,</i>	-	-	3444

* These cases occurred in January, 1823.

The above mentioned Deaths were caused by the following Diseases and Casualties, viz.:

Abscess,	10	Brought forward,	2095
Apoplexy,	58	Infanticide,	1
Asthma,	6	Inflammation of the bladder,	3
Burned, or Scalded,	23	————— of the bowels,	80
Carbuncle,	1	————— of the brain,	47
Cancer,	12	————— of the chest,	122
Casualties,	36	————— of the liver,	31
Catarrh,	2	————— of the stomach,	8
Child-bed,	18	Insanity,	4
Cholera Morbus,	27	Intemperance,	43
Colic,	4	Killed, or Murdered,	3
Compression of the brain,	1	Locked Jaw,	8
Consumption,	683	Lumbar abscess,	2
Convulsions,	202	Marasmus,	25
Contusion,	3	Measles,	117
Cramp in the stomach,	8	Menorrhagia,	1
Diabetes,	2	Mortification,	10
Diarrhoea,	64	Nervous disease,	7
Dropsy,	114	Old age,	134
————— in the chest,	33	Palsy,	31
————— in the head,	144	Peripneumony,	30
Drowned,	53	Pleurisy,	22
Dysentery,	98	Pneumonia typhodes,	7
Dyspepsia,	6	Quinsy,	8
Epilepsy,	4	Rheumatism,	6
Erysipelas,	11	Rickets,	1
Fever,	30	Rupture,	3
————— bilious,	15	St. Anthony's fire,	2
————— bilious, malignant,	1	Scirrhus of the liver,	3
————— bilious, remittent,	8	Scrofula, or King's evil,	15
————— inflammatory,	2	Scurvy,	1
————— intermittent,	14	Small-pox, <i>Natural</i> ,	18
————— malignant,	1	Sore throat,	10
————— puerperal,	3	Spasms,	7
————— remittent,	26	Sprue,	21
————— scarlet,	2	Still-born,	223
————— typhus,	89	Stone,	1
————— yellow,	1	Sudden death,	4
Flux, infantile,	150	Suicide,	18
Fracture,	3	Syphilis,	5
Gout,	1	Tabes mesenterica,	93
Gravel,	4	Teething,	37
Hæmorrhage,	9	Vomica,	1
Hæmoptysis,	4	Ulcers,	12
Hives, or Croup,	94	Unknown diseases,	74
Hysteria,	1	Hooping cough,	31
Jaundice,	14	Worms,	19
<i>Carried over,</i>	2095	<i>Total,</i>	3444

Of the above mentioned Deaths, there were:—

Men,	1007
Boys,	955
<i>Total Males,</i>	— 1962

Women,	-	-	-	-	-	-	-	734
Girls,	-	-	-	-	-	-	-	748
<i>Total Females,</i>	-	-	-	-	-	-	-	<u>1482</u>
<i>Total Number,</i>	-	-	-	-	-	-	-	<u>3444</u>

Return of Deaths in the City of Boston, from the first of January, 1823, to the first of January, 1824. Specifying their Sexes, Ages, and Diseases.

<i>Deaths in each Month.</i>	<i>Males.</i>	<i>Females.</i>	<i>Total.</i>	AGES.			
				Under From	1 1	Year, to	269 94
January,	51	46	97			2 to 5	38
February,	35	43	78			5 to 10	37
March,	53	44	97			10 to 20	51
April,	46	42	88			20 to 30	132
May,	57	39	96			30 to 40	117
June,	39	33	72			40 to 50	119
July,	37	30	67			50 to 60	63
August,	37	58	95			60 to 70	46
September,	71	64	135			70 to 80	42
October,	68	75	143			80 to 90	22
November,	45	57	102			90 to 100	3
December,	45	39	84	Ages unknown,			
<i>Totals,</i>	584	570	1154	<i>Total,</i>			
							1154

The above mentioned Deaths were caused by the following Diseases and Casualties, viz.

Abscess,	-	-	-	4	<i>Brought forward,</i>	-	-	488
Accident,	-	-	-	16	<i>Disease of the heart,</i>	-	-	7
Angina pectoris,	-	-	-	1	<i>Delirium tremens,</i>	-	-	7
Aneurism,	-	-	-	1	<i>Dyspepsia,</i>	-	-	3
Apoplexy,	-	-	-	11	<i>Dropsy,</i>	-	-	18
Asthma,	-	-	-	1	<i>Drowned,</i>	-	-	16
Atrophy,	-	-	-	1	<i>Dysentery,</i>	-	-	25
Burns,	-	-	-	2	<i>Effusion of the brain,</i>	-	-	2
Carbuncle,	-	-	-	1	<i>Epilepsy,</i>	-	-	1
Cholera infantum,	-	-	-	13	<i>Fever, inflammatory,</i>	-	-	12
Cancer,	-	-	-	3	<i>— pulmonic,</i>	-	-	38
Casualties,	-	-	-	4	<i>— pleurisy,</i>	-	-	4
Cholera morbus,	-	-	-	2	<i>— typhus,</i>	-	-	27
Colic, bilious,	-	-	-	1	<i>— nervous,</i>	-	-	3
Consumption,	-	-	-	183	<i>— rheumatic,</i>	-	-	1
Croup,	-	-	-	13	<i>— puerperal,</i>	-	-	5
Cynanche trachealis,	-	-	-	1	<i>— intermittent,</i>	-	-	1
Debility,	-	-	-	6	<i>Fits,</i>	-	-	9
Diarrhoea,	-	-	-	12	<i>Fracture,</i>	-	-	2
Diseases unknown,	-	-	-	212	<i>Gout,</i>	-	-	2
<i>Carried over,</i>	-	-	-	488	<i>Carried over,</i>	-	-	671

<i>Brought forward,</i>	671	<i>Brought forward,</i>	1010
Gravel,	2	Rheumatism,	1
Hooping-cough,	17	Syphilis,	1
Hernia, strangulated,	2	Scrofula,	4
Hydrocephalus,	9	Scalded,	1
Hydrothorax,	5	Scirrhouss liver,	6
Infantile diseases,	198	Sphacelus,	1
<i>of the bowels,</i>	15	Spasms,	3
Inflammation of the brain,	16	Still-born,	95
<i>of the bowels,</i>	15	Sudden death,	5
Intemperance,	10	Suicide,	3
Jaundice,	3	Stricture of the Urethra,	3
Marasmus,	7	Teething,	2
Mortification,	4	White Swelling,	1
Old age,	39	Worms,	3
Organic disease of the brain,	1	Wounds,	4
Palsy,	5	Yellow fever,	1
Phthisic,	1		
Quinsy,	5		
		Total,	1154
<i>Carried over,</i>	1010		

The number of inhabitants in the City of Boston, by the late Census, were 43,893. Boston lies in $42^{\circ} 23' 15''$ north latitude, and $70^{\circ} 32' 42''$ west longitude.

By order of the Commissioners of Health,

JOHN WINSLOW, Secretary.

MEDICAL PREMIUMS.

The Medical Society of the State of New-York has offered a premium of fifty dollars for the best dissertation on "the history, causes, and the treatment, of the hooping-cough;" and the like sum of fifty dollars for the best dissertation on "the remote and exciting causes of phthisis pulmonalis," the dissertation to be forwarded to the Secretary at Albany, on or before the 1st January 1825.

PHILADELPHIA ANATOMICAL ROOMS.

PALMAM QUI MERUIT FERAT.

At the termination of the session of 1823-4, the annual award of honours for the best exercises in different parts of the science of Anatomy took place, and the following gentlemen were the successful competitors:

First Honour; the best Practical Anatomist;* JAMES WEBSTER, Jun. of Philadelphia.

Second Honour; the best examination on General Anatomy; PHILIP M. PRICE, of Chester Co. Pa.

Third Honour; the best examination on the Vascular System; THOMAS W. MERIWETHER, of Albemarle, Va.

Fourth Honour; the best examination on the bones, muscles, and joints; JAMES COX, of Philadelphia.

Fifth Honour; the best Anatomical Preparation; WILLIAM B. FAHNESTOCK, of Lancaster, Pa.

JOHN D. GODMAN.

February, 1824.

* The competitors for the first honour, are examined by placing before them a subject, and calling on them to demonstrate any artery, vein, nerve, muscle, &c. at the option of the examiners.

Meteorological Observations, taken south-west of Philadelphia.
Lat. 39° 37'.

THERMOMETER.

JANUARY, 1824.

Sun rise.	2 P.M.	WINDS.	WEATHER.
1 42°	. 43°	N.E. - - -	Cloudy, with rain. Ground clear of frost in
2 37	. 40	N.E. - - -	Cloudy. [most shaded places.]
3 35	. 48	S.W. W. fresh	Cloudy, clear.
4 —	. 51	S.W. S.S.W.	Clear.
5 37	. 53	S. - -	Cloudy, clear. Mild and pleasant day.
6 52	. 54	S. - -	Cloudy with rain.
7 28	. 39	W. S. fresh	Clear.
8 31	. 46	S.W. - -	Clear.
9 30	. 44	W. - -	N.W. Clear.
10 —	. 51	S. S.S.W.	Hazy.
11 —	. —	N.E. - -	Cloudy and rain.
12 —	. 43	N.W. - -	Cloudy. Weeping willow budding.
13 —	. 46	S. S.W.	Cloudy, flying clouds.
14 —	. 45	S.W. N.W. violent	Cloudy.
15 24	. 32	W. - -	N.W. Clear. Ice floating in the Delaware.
16 27	. 40	S.W. fresh S.W.	Clear, cloudy. Flowers of the Dandelion
17 30	. 37	W. W. strong	Clear. [nearly expanded.]
18 31	. 43	S. - -	N.N.E. Cloudy.
19 25	. 28	N.N.W. - -	Cloudy.
20 17	. 27	N.W. - -	N. Clear, hazy.
21 28	. 35	S.W. W. strong	Cloudy.
22 19	. 31	N.N.W. - -	Clear.
23 26	. 39	— -	Hazy, cloudy.
24 31	. 41	— E. fresh	Clear. [morning.]
25 34	. 37	N.E. stormy -	Cloudy, rain. Sleet on the ground in the
26 36	. 40	N.N.E. - -	Snow, flying clouds. Snow melted as it fell.
27 31	. 38	— -	Clear.
28 30	. 41	— -	S. Clear.
29 30	. 45	S.E. S.W. fresh	Hazy, clear.
30 38	. 44	— -	Cloudy.
31 34	. 39	— W. violent	Snow, cloudy. Snow last night to cover the ground, but melted away through the day.

Mean temperature of the month, 36° 3'.

THERMOMETER.

FEBRUARY, 1824.

Sun rise.	2 P.M.	WINDS.	WEATHER.
1 20°	. 24°	W. strong	Clear, flying clouds.
2 9	. 22	—	Clear.
3 13	. 33	—	Clear, hazy.
4 33	. 41	—	Snow, hazy.
5 8	. 16	N.W.	Clear.
6 11	. 33	S.W.	Clear.
7 28	. 47	S.W.	Hazy, clear.
8 38	. 53	—	Hazy, clear.
9 31	. 47	S.W.	Hazy, clear.
10 41	. 51	S.W.	Thick fog, cloudy.
11 53	. 65	—	Cloudy. Ground clear of frost.
12 32	. 34	—	Flying clouds.
13 21	. 34	—	Clear.
14 35	. 43	—	Cloudy.
15 39	. 40	N.E.	Steady rain.
16 34	. 38	N.N.W.	Cloudy.
17 37	. 43	N.W.	Cloudy, clear.
18 34	. —	—	—
19 28	. 35	N.W.	W. Clear.
20 31	. 49	S.W.	S. Clear.
21 33	. 54	S.	Clear, hazy.
22 41	. 40	N.E.	N.N.E. Steady rain.
23 28	. 33	N.E.	Cloudy.
24 23	. 30	N.W.	W. Snow, clear.
25 19	. 33	N.N.W.	S. Clear, cloudy.
26 35	. 54	S.S.E.	fresh Cloudy.
27 32	. 38	W. strong	W. Flying clouds.
28 28	. 33	W.	S.S.W. Hazy, cloudy.
29 25	. 33	W.	N.W. Clear, cloudy.

Mean temperature of the month, 34° 2'.